The Nature Of Guilt-Proneness Among Young Saudi Arabian Males And Its Relationship To Illicit Drug Use And Criminal Offending

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By

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ABSTRACT

While a number of Western personality and clinical psychologists have explored the adaptive functions of guilt-proneness in relation to a wide variety of behavioural patterns, the investigation of guilt-proneness in the Arabian-Islamic culture remains a neglected field. Perhaps one reason for the absence of research dealing with guilt-proneness and its therapeutic application in the Arab world, and in the Saudi culture in particular, is the lack of an empirically-based measure of guilt-proneness.

In this study, a new psychometric instrument, the Guilt-Proneness Scale (GPS), has been developed and used to investigate the role of guilt-proneness in inhibiting involvement in deviant behaviour with particular reference to juvenile illicit drug use and offending behaviour in Saudi Arabia. Exploratory factor analysis of the GPS (based on 214 Ss) has revealed three aspects of guilt-proneness phenomenon among Saudi subjects: (1) religious-related guilt (RG), (2) social-related guilt (SOG), and (3) self-oriented guilt (SG). The GPS total and these three subscales have demonstrated satisfactory levels of reliability in terms of both test-retest and internal consistency criteria. A confirmatory factor analysis examination using Structural Equation Modelling techniques (SEM), has confirmed this three-factor model for guilt-proneness. SEM was performed on the data of three subject groups: the first was 206 Ss., the second was 227 Ss., and the third (a combined group) was 433 Ss. Regarding the scale validation, the attempts to establish evidence of the criterion-related, construct, and disciminant validity of the GPS measure of guilt-proneness have been largely successful.

The GPS has been utilised in investigating the role of guilt-proneness in inhibiting involvement in illicit drug taking and criminal behaviour of Saudi male juveniles. A study was conducted comparing individual differences in guilt-proneness between voluntarily admitted illicit drug patients (N = 64), convicted illicit drug users (N = 58), non-drug-abusing offenders (N = 71), and normal controls (N = 68). Based on a discussion of current theoretical and empirical approaches dealing with the relationship of guilt-proneness to involvement in illicit drug use and crime, a number of hypotheses were formed. It was hypothesised that: (H_1) Normal subjects should manifest greater amount of religious-related guilt than would the voluntary drug abusers, convicted drug abusers, or offenders. (H_2) Voluntarily admitted drug abusers should score higher on the three guilt-proneness subscales than would either the convicted drug abusers or the offender group. (H_3) Guilt-proneness as measured by the GPS scales should be associated negatively with level of psychopathy. (H_4) There should be significant differences in mean guilt-proneness scores among groups varying in their drug preference. (H_5) Guilt-proneness in the offender group should be associated negatively with the number of convictions. (H_6) The offenders who had committed violent crimes should display significantly lower level of guilt-proneness than those who had been involved in non-violent crimes. In addition to the these hypotheses, the interaction between guilt and selected variables was also examined. The analyses yielded promising results with regard to the measurement of individual differences in guilt predisposition between the groups tested. Both the convicted drug abusers and the non-drug-abusing offenders were marked by low susceptibility to experiencing guilt. Unlike the convicted drug abusers and the non-drug-abusing offenders, the voluntarily admitted drug abusing patients tended to maintain a healthy level of susceptibility to experiencing guilt which is postulated to be significantly influential in their decision to seek treatment. The normal controls manifested the highest religious-related guilt (RG) scale. The findings also revealed that the voluntarily admitted drug patients were distinguished from both the convicted drug takers and the non-drug-abusing offenders. However, no significant differences were found between the convicted drug takers or the offenders. An examination of the relationship of guilt-proneness to psychopathy indicated a significant negative correlation. This pattern of correlation, revealed for the first time for subjects of an Arabian culture, seems in line with most research exploring the relationship of guilt-proneness to psychopathy in Western juveniles. With regard to the examination of the individual difference in guilt-proneness between heroin users, alcohol users, and multi-drug users, it was found that all the

three guilt-proneness scales differentiated significantly ($p = < 0.005$) between the three groups of illicit drug taking. In addition, an examination of the relationship between level of guilt-proneness and experience with illicit drug use indicated that those newly involved in taking illicit drugs manifested significantly higher RG, SOG, and SG than the long-term users ($p = < 0.01$).The results of the present study also showed that the RG, SOG, and SG scales differentiated significantly between the recidivists and first time offenders, and between offenders who had committed violent offences and those who had committed non-violent offences.

Consistency of the effect of guilt-proneness in inhibiting involvement in deviant behaviour relating to the use of illicit drugs and commission of crimes, has been examined in a 33-month follow-up study. The follow-up study demonstrates that the re-admitted illicit drug patients had significantly lower GPS scores ($p = < 0.001$) than those showing recovery from illicit drug dependence. The results derived by the follow-up also reveal an interesting relationship between relapse (readmission) and having low scores on the three GPS subscales. With regard to the offender group, the results demonstrated a significant correlation ($p = < 0.01$) between the GPS scores of the Recidivists, taken at the time of the first and second testing with a 33 month interval. Hence evidence of the predictability of guilt-proneness as measured by the GPS scales, appears to be very promising. In general, the results of the comparison study as well as the follow-up study provide support for the positive role of guilt-proneness in inhibiting involvement in illicit drug taking and offending behaviour in the Saudi juveniles. In addition, these findings have demonstrated the effectiveness of the GPS as a measure of guilt and in predicting the occurrence of a particular class of behaviour.

The final part of the present research was aimed at providing extended individual-case examples of use of the GPS. I have employed a personal construct theory approach through the use of the Repertory Grid technique. Individual GPS profiles, as well as Rep Grid data, were obtained for five in-patient illicit drug abusers and one incarcerated offender. Based on the use of cluster analysis, construct intercorrelation, and principal components analyses, the results of individual grids of each of the six cases were analysed. These demonstrated a pronounced and statistically significant agreement between GPS profiles and Rep Grid indicators of the individual's level of willingness to giving up the use of illicit drugs or involvement in crimes ($p = < 0.05$). These findings demonstrate further the value of guilt-proneness in predicting the individual's response to rehabilitation. They clearly extend support for the GPS as a powerful and useful diagnostic tool. Its use in conjunction with the repertory grid technique with both drug abusers and criminal offenders seems very promising and encourages further research.

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Chapter One

Introduction

Throughout history, the concept of guilt has frequently been discussed in the context of religion and moral philosophy. However, only recently has the construct of guilt become a topic of scientific inquiry. A number of personality and clinical psychologists have began to explore guilt as a personality disposition (affective cognitive structure), a cognition or a set of attitudes, an affective reaction (state) such as realisation that one has done something which is wrong, or a realisation that one does not have good intentions. Proneness to guilt has also been dealt with as feelings such as hostility turned against the self, painful internal tension, regret, reproach, topical anxiety. It is often defined in terms of actions such as a wish for expiation or atonement, self-restitutional behaviour, or it can be defined as a combination of these factors.

Modern interest in the investigation of guilt construct has, mainly, been initiated by Sigmund Freud (e.g., Freud, 1974 [1927], 1982 [1933]) through his psychoanalytic theory of human personality. Freud's work on the concept of guilt was based on his hypothesised structure of human personality; where guilt is seen as the 'tension' between strict *superego* and *ego*. In this view, guilt is conceived as a reaction that is triggered by ego's violation of the superego's norms. Psychoanalysis maintains that the experience of guilt is developed primarily as a function of mechanisms of *identification* and *introjection* (see, e.g., Hall, Gardner and Lindzey, 1967, p. 6, Izard, 1977, p. 430, and Zahn-Waxler and Kochanska, 1990, p. 190).

Freud (1982 [1930]) emphasised the role of guilt as a personality dynamic. He spoke of guilt as "the most important problem in the evaluation of culture" (Freud, 1930, p. 123). Fenichel (1945) expanded Freud's notion that guilt has its origins in fear of loss of love. Fenichel defined guilt feeling as a topically defined anxiety: the anxiety of the ego towards the superego. He distinguished between two types of guilt feelings. The first occurs in response to perceived misdeeds, and the second pertains to future events.

A number of psychoanalysts have explored guilt and its implications within the framework of psychodynamic theory (see, e.g., Fenichel 1945; Friedman, 1973; Gottschalk and Gleser, 1969; Piers and Singer, 1971; Stein, 1968).

Although psychoanalytic theory has been instrumental in stimulating a few studies relating to guilt, empirical study of guilt has, largely, been advanced by Mosher's adaptation of social learning theory (Mosher, 1965, 1968, 1979, 1980, 1985); where he was the first to operationalise a personality disposition of guilt and develop a psychometric measure of guilt-proneness.

Using social learning approach, Mosher defines guilt as a "generalized expectancy of self-mediated punishment (i.e., negative reinforcement) for violating or failing to attain internalized standards of proper behaviour" (Mosher, 1965, p.162). Based on his investigation of guilt in the American culture Mosher has identified three aspects of guilt-proneness: hostility-guilt, morality-conscience-guilt, and sex guilt. Mosher (e.g., 1965, 1980) believes that this guilt disposition develops in the course of an individual's socialisation to parental and societal standards of control and is a function of his past experience of reinforcement in respect of attaining or violating standard of satisfactory conduct.

Guilt is differentiated from shame, anxiety, and fear (Freud, 1936; Fenichel, 1945; Gilbert *et al.*, 1994; Izard, 1977; Lewis, 1971; Lindsay-Hartz, 1984; Nixon & Steffeck, 1976; Piers & Singer, 1971; Potter-Efron, 1988, 1989; Tangney, 1992, 1993; Tangney *et al.*, 1992; Wicker, Payne & Morgan, 1983). Lewis (1971), for example, has established several standards for differentiating shame and guilt. She distinguished between shame and guilt in terms of their relatedness to self and others. When feeling shame, the person sees himself or herself as a weak, helpless, fragmented, shy, and injured person in relation to a powerful, ridiculing, and hurtful other. The self is experienced as the object of scorn, contempt, humiliation, and ridicule. When feeling guilt, the self is both the source and the object of the of the negative valuation.

Potter-Efron (1989) provides a similar distinction which suggests that shame issues involve the client's central identity, his whole self; whereas guilt refers to specific actual or contemplated behaviours of that individual. Potter-Efron suggests that the shamed individual would normally use a statement like: "How could ***I*** have done that?" while a guilty person would ask: "How could I have done ***that***?".

Tangney (1992) investigated the situational determinants of shame and guilt. Tangney's investigation was based on examining respondent's description of guilt-inducing and shame-inducing situations (N = 146 Ss.). Tangney found a number of differences in the situational determinants of the two constructs. A major distinction, reported by Tangney, was that guilt is typically induced by specific transgressions to personal moral standards, often involving harm to others. Shame, in contrast, is induced by specific moral transgressions as well as by non-moral situations and issues (e.g., failure in performance situations, socially inappropriate

behaviour or dress). Tangney states that guilt but not shame motivates a desire for reparative actions.

In their phenomenological study of guilt and shame, Gilbert, Pehl, and Allan (1994) distinguish between the two constructs in terms of consequences that accompany shame or guilt. They view guilt as a self-monitoring system that motivates help giving, avoiding exploiting and harming others. Gilbert *et al.* argue that shame relates to seeing oneself as inferior and unattractive, in some way, to others; whereas guilt rarely relate to awareness of others' judgement. Another distinction, drawn by Gilbert *et al.*, was that with guilt, the self remains active rather than helpless and inferior as is likely to be the case with shame.

The adaptive functions of guilt have been explored by a number of personality and clinical psychologists. Izard (1977), for example, has emphasised the importance of the positive role that guilt plays in various aspects of our life. He says:

> "The anticipation of guilt or guilt avoidance heightens ones sense of personal responsibility. ... Without guilt the rules of fair play would have to be monitored by a special police force, but who would train and monitor the police? A society in which no one had a sense of guilt would indeed be a poor and dangerous place in which to live." (Izard, 1977, p. 426).

Guilt is also recognised as having a critical role throughout the process of socialisation. Ausubel (1955) stated that:

> "Guilt is one of the most important psychological mechanisms through which an individual becomes socialized in the ways of his culture. ...Without the aid rendered by guilt feelings, child rearing would be a difficult matter indeed. If children felt no sense of accountability or moral obligation to curb their hedonistic and irresponsible impulses to conform accepted social norms, or to acquire self-control, the socialisation process would be slow, arduous, and incomplete." (Ausubel, 1955, p. 378).

Schill and Calhoun (1975) also emphasise the self-regulatory function of guilt. They write:

> "....most people regard the emotion of guilt ... as important influence on their behaviour. In fact, without resorting to the notion that it would make them "feel bad," it is difficult to understand why people do not more often engage in immoral thoughts and actions." (Schill and Calhoun, 1975, p. 315).

In addition to the apparent role of guilt in facilitating internal self-control, Potter-Efron (1989) discusses the possible post-transgression effect of guilt. According to Potter-Efron, the guilty individual is likely to be motivated for involvement in reparative behaviours. Potter-Efron writes:

> "Guilt is the internal mechanism that reminds the individual that he must obey societal norms or eventually he will be punished. If those rules have already been violated, guilt drives the perpetrator to renounce this unacceptable behaviour and even to attempt to repair the damage he has done." (Potter-Efron, 1989, p. 16).

Indeed, research into the guilt construct and its function on behaviour has, largely, been motivated by a need for exploring the *positive* role of guilt-proneness on behavioural patterns rather than centring on the negative effect of guilt state, pathological guilt, or irrational guilt. Research, therefore, seems to emphasise two aspects of the function of guilt-proneness. The first aspect, which has apparently received the most attention of researchers working on the construct of guilt-proneness and its implications, concerns the role of guilt-proneness in mediating behaviour, inhibition the manifestation of certain acts, or invoking resistance to temptations in respect to a wide variety of deviant behaviours.

Anther aspect of the function of guilt-proneness, which has recently drawn the attention of some researchers (Cromer, 1981; Czunder, 1985; Czunder & Mueller, 1987; Fehr, 1988; Potter-Efron, 1988, 1989; P. Potter-Efron, 1989) who began to explore ways in which guilt-proneness mediates post-transgression-restitutional

behaviours. In this regard, it is emphasised that even after a transgression of a social or religious norm has occurred (for some reasons), the more guilt-prone individual is likely to be motivated by the influence of guilt-proneness to seek ways of undoing the transgression (wherever possible). This often involves, forms of restitutional behaviours (Potter-Efron, 1988), repentance (e.g., Cromer, 1981; Majdoub, 1987), reparative behaviours (Barrett & Zahn-Waxler, 1987; Baumeister *et al.,* 1994; Gilbert *et al.,* 1994; Zahn-Waxler & Kochanska, 1990). acts of seeking forgiveness (e.g., Majdoub, 1987; Potter-Efron, 1988, 1989), and attempts to restoring relationship with the concerned party (e.g., Potter-Efron, 1988). Current research tends to explore the significance of both aspects of the positive function of guilt-proneness in relation to the occurrence of a variety of deviant behaviours such as the intake of illicit drugs (e.g., Ungerer *et al.*, 1976; Fehr, 1988; Schill & Althoff, 1975) and commission of crimes (e.g., Mosher and Mosher, 1967; Persons, 1970; Ruma & Mosher, 1967). While both these aspects have been emphasised as having important implications in terms of drug abuse and crime intervention, the second aspect which relates to the role of guilt-proneness at post-transgressions period, seems to have a considerable utility for therapeutic implications.

A number of studies have focused on the investigation of individual differences in guilt-proneness in criminal groups. Mosher and Mosher (1967) found that measures of guilt-proneness were able to discriminate between criminals committing violent crimes (e.g., murder, sexual assault, fighting), and those of non-violent or minors crimes (e.g., crimes against property). Mosher and Mosher also observed differences between first-time and repeat criminals in terms of their level of guiltiness. Persons (1970a) reported a successful replication of the Mosher and Mosher (1967) study. More recent studies investigating the relationship

between type of crime and attribution of blame by Gudjonsson & Pertursson (1991), and Gudjonsson & Singh (1989) have also found that levels of guilt to differentiate between different types of criminal behaviour in prisoners.

Other studies have been devoted to the investigation of guilt-proneness in drug abuser populations. Schill and Althoff (1975) reported a correlation between guilt-proneness and type of drug used. Ungerer, Harford, Brown, and Kleber (1976) reported significant individual differences in guilt-proneness among drug abusers who prefer the intake of stimulant drugs (e.g., amphetamines and cocaine), sedatives (e.g., barbiturates, opiates), and those who have no particular drug preference. Heitun (1985), based on clinical investigation, reported that most abusers seeking ways out of dependence were characterised by unpleasant guilt feelings or guilt awareness.

Relevant to the effect of guilt-proneness in inhibiting the occurrence of forms of illicit-drug use, and crime, is the individual's level of psychopathy. Graham (1993, pp. 63-66) in his book "*MMPI-2 assessing personality and psychopathology*" discusses a number of identifying characteristics of the psychopathic personality. He indicates that individuals scoring high on the MMPI Psychopathic Deviate Scale (particularly if the *T* score is >70) are typically characterised as having great difficulty in incorporating the values and standards of society and they are likely to engage in a wide array of asocial or antisocial behaviours. These behaviours may include lying, cheating, and stealing. High scorers also tend to engage in sexual acting out and excessive use of alcohol and/or drugs.

In general, a pattern of negative relationship is, often, reported between proneness to guilt and psychopathic tendency. This pattern of relationship is assumed to

follow the dominant theorising that psychopaths are characterised by lack of guilt feeling (e.g., Cleckley, 1976 [5th Ed.]; Farrington, 1994; Hare, 1980, 1985; Yochelson *et al.*, 1976).

The role of guilt-proneness in the psychotherapy of criminals and illicit-drug patients has recently been investigated by a number of researchers. For example, Czunder (1985) has developed a therapeutic approach to criminal behaviour. Czunder's approach is based on the stimulation of guilt feelings and sense of responsibility in the criminal. Similarly, Cromer's (1981) religious technique for the rehabilitation of delinquents, has been primarily based on activating the offender's guilt feelings and negative consequences of his action.

Potter-Efron (1989), in his book, *Shame, guilt and alcoholism: Treatment issues in clinical practice,* discusses a number of strategies pertaining to the rehabilitation of alcohol and drug dependents. Potter-Efron, expresses the fact that while capability for guilt feeling would be useful in reducing the individual's chance of becoming alcohol abuser, it would be necessary for alcohol-dependency therapist to understand the client's affective-guilt reaction in order to make appropriate effort for reducing unpleasant guilt reaction in recovering clients.

The Present Study

Review of existing work pertaining to the construct of guilt-proneness, and its inhibitory effect with regard to an individual's involvement in illicit-drug taking or offending behaviours, shows that most current research on the guilt construct has been carried out within Western cultures. And as yet, no attempts have been made at exploring the construct of guilt-proneness and the extent of its effect on juvenile drug abusing and offending behaviour in the Saudi culture. Indeed a review of

Arabic psychology literature shows no sign of the availability of empirically-based psychological study concerning the exploration of individual differences in guilt-proneness within an Arabic-Islamic cultural context.

Perhaps one reason for the absence of work aimed at exploring guilt and its function, is the lack of appropriate measuring instrument of the individual differences in guilt-proneness. Bearing in mined the fact that guilt experiences vary considerably as a function of sociocultural factors (Abramson and Imai-Marquez, 1982; Izard, 1977; Marsella, 1980), a direct translation of a guilt-proneness measure such as the Mosher Guilt Scale would seem unlikely to succeed in an Islamic cultural settings.

For work comparable to that which, in a western cultural context, a number of psychologists have carried out (e.g., Czunder, 1985; Mosher, 1966b; Mosher and Mosher, 1967; Potter-Efron, 1989; Schill and Althoff, 1975; Ungerer, *et al.,* 1976) to be possible in an Islamic country, there is a need for tests of individual differences in guilt-proneness.

The lack of guilt measures in an Islamic-oriented society such as Saudi Arabia, dictates the necessity for devising a new guilt-proneness scale that would be appropriate and relevant to the Saudi culture. Hence, the aim of the present study has been to develop and validate a new guilt instrument that would be suitable for use in the Saudi population, and to employ such an instrument in examining the relationship of guilt-proneness to young male anti-social behaviour in Saudi Arabia with special reference to illicit-drug taking, and offending behaviour.

Statement of the Problem

On the basis of past literature, generated mainly in western societies, which emphasises the role of guilt-proneness in inhibiting involvement in illicit drug use or in the commission of criminal acts, the present research attempt to address six main issues:

The first is concerned with examining whether significant individual differences in guilt-proneness do exist between illicit-drug abusers, criminal offenders, and normal individuals, and if so, in what order such differences occur? Second: How does guilt-proneness relate to the individual's (the drug-abuser's, or offender's) level of psychopathic tendency? Third: how does level of guilt-proneness relate to type of crime committed (i.e., violent crime vs. non-violent crime)? Fifth: Does level of guilt-proneness relate to the drug-abuser's preference for particular type of illicit drugs? Six: Does level of guilt-proneness relate to number of convictions in criminal offenders? In addition to the above main questions, the interaction between guilt-proneness and selected variables is also examined.

In order to achieve the objectives of the present research, the research was conducted in three main stages. The first stage was, mainly, devoted to the development of a new guilt-proneness scale (GPS). A series of psychometric analyses were carried out for assessing the reliability and validity of this scale. These analyses begins with an exploratory item factor analysis, followed by an evaluation of the reliability of the new guilt-proneness scale. The validity of the GPS scale is investigated in this stage by examining the clinical, discriminant, convergent, and construct validity of the GPS. In addition, the construct validity of

the GPS is, further, evaluated through an experiment that is designed to examine the effect of guilt-proneness on verbal conditioning.

This stage of the present research, is finalised by a confirmatory factor analysis of the GPS scale. This analysis utilises a structural equation modelling approach (SEM). The purpose of this confirmatory analysis was to re-examine the psychometric property of the GPS in a fresh sample of subjects.

The second stage comprises two main parts. The first part of this stage attempts to address the main issues raised in the current research project - the investigation of individual differences in guilt-proneness among young male illicit-drug-takers, young male offenders who are not currently users of illicit drugs, and young normal population. In addition, this part of the second stage is also assigned to exploring specific questions about the relationship of guilt-proneness to the occurrence of particular patterns of illicit-drug use, and offending behaviour.

The second part of this stage was designed to provide a follow-up study. The design of this follow-up study, which is conducted with a 33-month interval, is based on the findings that emerged from the first part in this stage. The purpose of conducting a follow-up study was to test the extent to which the findings that were observed, were consistent over time. More importantly, this was done to find out whether level of guilt-proneness could, indeed, predict the occurrence of particular type of deviant behaviour.

The third stage in the present research, is directed to conducting a further examination of the use of the GPS scale through examples of clinical cases. The investigation that is conducted in this stage is a set of individual case-studies employing a more *ideographic* approach, namely, an adoption of personal construct theory with its diagnostic technique - the repertory grid . The main aim of

conducting this analysis is to use the qualitative information which the repertory grid gives, for examining how the individuals' guilt-proneness fits their internal world. Specifically, the analysis in this stage is intended to determine whether the GPS as a measure of guilt-proneness is able, at individual level, to predict the extent to which the drug abuser is willing to consider abandoning the use of illicit drugs. Similarly, the analysis is intended to examine whether guilt-proneness could also provide a valid prediction, at individual level, as to the extent to which criminal offenders who are not previously drug abusers are willing to consider giving-up involvement in anti-social acts.

Significance of the Study

Having considered the adaptive utility of guilt-proneness in relation to the occurrence of forms of anti-social behaviours such as the problem of juvenile illicit drug use and crime, the findings of the present study can help refine our knowledge and understanding of the way in which the mechanism of guilt-proneness operates in relation to illicit-drug-use, and crime in the Saudi culture. In addition, this research can validate and extend the theory that guilt-proneness serves a self-regulatory function that mediates anti-social behaviour. The findings of the present study should also contribute to the design of therapeutic programmes in respect of rehabilitation of juvenile illicit drug use and criminal offenders. Diagnostic techniques for guilt-proneness that are proposed in the present study, should encourage professionals (e.g., psychotherapists, counsellors, and researchers) exploring guilt-proneness-related strategies that are relevant to assessment, treatment, and development of preventive programmes for young drug abuse and criminals.

Structure of Chapters

Chapter *Two* of this thesis provides a discussion of two major theoretical approaches that deal with exploring guilt, its development, assessment, and its function in relation to the manifestation of deviant behavioural patterns. There are three main sections in this Chapter. The first section presents a review of an early theoretical discussion of guilt, as represented in the psychoanalytic perspective. The second section addresses the mainstream contemporary approach to guilt which is based on social learning theory. The final section explores Mosher's adaptation of social learning theory for studying guilt-proneness.

Chapter *Three* discusses existing empirical research that relates to exploring guilt-proneness and its role in inhibiting involvement in forms of deviant behaviour - namely, forms of illicit drug taking, and criminal acts.

Chapter *Four* focuses on the issue of cultural determinants of guilt-proneness. Contemporary definitions of guilt indicate that guilt is triggered by violation of internalised standards of acceptable behaviour. As different cultures reinforce different *content* of standards of acceptable behaviour, this chapter attempts to explain the current standards of acceptable behaviour that are specific to the Saudi culture.

Chapter *Five* discusses the problem of juvenile illicit drug use and criminal offending in Saudi Arabia. Chapter *Six* presents the initial development of the new guilt-proneness scale (GPS). Chapter *Seven* provides a series of psychometric procedures relating to the development of the GPS which include an exploratory item-factor analysis and reliability assessment of the GPS. Chapter *Eight* presents method and related procedures that are devoted to an investigation of the clinical

validity of the GPS. Chapter *Nine* provides an evaluation of the construct validity of the GPS. Chapter *Ten* presents a further investigation of the construct validity of the GPS by examining the relationship of guilt-proneness to verbal conditioning.

Chapter *Eleven* concerns a confirmatory factor analysis testing of the model underlying guilt-proneness model. This confirmatory factor analysis is based on the employment of structural equation modelling.

While Chapter *Six* to Chapter *Eleven* are devoted to the development and validation of the new guilt-proneness scale (GPS), Chapter *Twelve* reports a substantive study using the GPS to test hypotheses relating to differences in guilt-proneness between the various deviant groups. The hypotheses, method, and related procedures are presented in this Chapter.

Chapter *Thirteen* presents and discusses the results of a series of analysis of variance and Pearson correlations which are conducted in respect of examining the differences in guilt-proneness between the various groups tested. Chapter *Fourteen* introduces the design of a follow-up study based on 33-month interval, and discusses the results that are derived from this study.

Chapter *Fifteen* provides a further examination of the use of the GPS scale, through case examples of drug abusers and criminal offenders. Method which is, in this section, based on personal construct theory, and individual repertory grid results are presented.

Finally, Chapter, *Sixteen* provides a general discussion which relates to all three stages of investigation conducted in the present study.

Chapter two

Theoretical and Empirical Approaches to Guilt

Modern interest in exploring the phenomenon of guilt can be traced to the psychoanalytic theory of human personality (e.g., Freud [1927] 1974, [1930] 1982, [1933] 1964). In Freudian theory, guilt was believed to emerge in the context of the development of the basic structure of personality which is represented in three components: the *id, ego,* and *superego*. According to this theory, guilt arises when forbidden wishes or deeds conflict with *superego* standards. As a result, the superego retaliates against the ego with self-punitive responses.

Although psychoanalysis acknowledges the adaptive aspect of guilt experience, empirical and replicable investigations of guilt phenomena have, mainly, stemmed from the adaptation of general learning principles of social learning theory. This is largely represented in the work of Mosher (e.g., 1965, 1966a, 1966b, 1968, 1979, 1980), where guilt is viewed as a personality disposition that underlies individual differences in ability to inhibit the occurrence of unacceptable standards of proper conduct.

As most existing theoretical and empirical approaches to guilt have evolved from either classical psychoanalytic theory or social learning theory, the discussion to follow will be confined to these more formal theories.

(a) Psychoanalytic Perspective of Guilt

In psychoanalytic theory, guilt is explained within the basic structure of personality suggested by this theory (viz. the *id*, *ego*, and *superego*). At an early stage in the infant's development, the *id* is assumed to function as an innate self of impulses, instincts, or drives. It is also described as largely sexual and aggressive in nature. The *ego* emerges as the infant develops the capacity to conceptualise himself as a separate object from the others, to think and choose and begin to interact with the environment (*reality*). The superego develops as children begin the process of internalising a sense of proper conduct either identical with or sufficiently similar to their parents' or that of their reference group. This process received considerable attention from Sigmund Freud (e.g., Freud [1927] 1974, [1930] 1982, [1933] 1964) as it involved a process which he called *Identification*, the process through which the superego incorporates the standards and values of the parents.

According to psychoanalytic theory, the superego develops primarily as a function of mechanisms of incorporation or introjection and identification. It is stated by Freud that:

> "The super-ego is, however, not simply a residue of the earliest object-choices of the id; it also represents an energetic reaction formation against those choices. Its relation to the ego is not exhausted by the precept: 'You *ought to be like* this (like your father). It also comprises the prohibition: 'You *may not be like* this(like your father-that is, you may not do all that he does; some things are his prerogative. ...The super-ego retains the character of the father, while the more powerful the Oedipus complex was and the more rapidly it succumbed to repression, the stricter will be the domination of the super-ego over the ego later on-in the form of conscience or perhaps of unconscious sense of guilt." (Freud, [1927] 1974, p. 24).

In the psychoanalytic view (Freud, [1927] 1974, [1930] 1982; 1933), guilt is an intra-psychic tension that can be characterised as an attack of the self upon the self. In Freud's description:

> "The tension between the harsh super-ego and the ego that is subjected to it, is called by us the sense of guilt..." ([1930]1982, p. 60).

Thus, the superego is seen as the agency that is responsible for the attack and for the painful guilt state. There appears to be two propositions which are central to this issue: firstly, Freud postulated an aggressive instinct which is in constant opposition to both the *life instinct* and the *maintenance of civilization*; and secondly, he proposed that the hostility and ambivalence associated with the *Oedipal* conflict is a universal and inevitable aspect of human family functioning.

Psychoanalytic theory holds that it is in response to the need for impulse control during the Oedipal struggle that a superego is differentiated out from the ego (Freud, [1923] 1974). Through the child's identification with the father, including his prohibition and sanction, the superego develops as the intra-psychic representation of parental approval and disapproval.

It has been stated by Fenichel (1945) that the ego's need for the love and approval of the superego is analogous to the child's need for the love and approval of the parents. If met with criticism or disapproval by the *conscience,* the ego will try to 'restore' itself through the (generally unconscious) need for punishment. Thus, the aggression which the ego may not express to others is internalised: it is turned back on itself and experienced as guilt.

Fenichel (1945), in his discussion of anxiety, guilt, and defence, draws a parallel between anxiety and guilt. In his view, both anxiety and guilt are regarded as motives for defence. Both are seen, when under ego control, as warning signals of danger. The important difference between anxiety and guilt, in Fenichel's view, however, relates to the development of the 'decisive' identification which transforms anxiety over external loss of love or narcissistic supplies, to an internal anxiety or fear of loss of narcissistic supplies which have become under the control of the superego.

Fenichel (1945) further distinguishes between guilt feeling proper and the warning function of guilt. He writes:

> "Guilt feeling proper, that is, the feeling "I have done wrong", a painful judgement about past occurrence which has the character of remorse, must be distinguished from feelings of conscience which do not judge the past but the failure: "I should do this" or "I should not do that". This part of conscience has a warning function and directs future actions of the personality... The warning function of conscience expresses the ego's tendency to avoid the pains of intense guilt feelings. These pains constitute a specific displeasure, the avoidance of which is the aim of the conscientious person. As long as real punishment is feared, or hell is thought of as a threatening reality, there is no true conscience yet, for the tendency to avoid punishment and Hell does not differ form other anxiety signals. In conscience the fear is internalized, and the danger threatens from within." (Fenichel, 1945, p. 134).

Psychoanalytic theorists (e.g., Alexander, 1938; Fenichel, 1945), also distinguish between guilt feelings proper and the warning anticipation of guilt feelings which serves to inhibit unacceptable behaviour. The fear is based on an internal not external threat of punishment. In the following quote, Alexander (1938) stresses the inhibitory effect of guilt:

> "As a form of anxiety, the fearful expectation of an inevitable and deserved suffering, the sense of guilt is primarily an inhibitory phenomenon. Under its pressure the individual is apt to avoid the expression of those impulses which have evoked and contributed to his guilt feelings." (Alexander, 1938, p. 43).

Piers and Singer (1971) distinguish between shame and guilt. They propose that while guilt is generated whenever a boundary (set by the superego) is transgressed, shame is evoked when a goal (presented by the ego-ideal) is not being reached. Based on this view, shame indicates a real "shortcoming" and accompanies failure; whereas guilt anxiety accompanies transgression. Some psychologists (e.g., Ausubel, 1972; Mowrer, 1960) would see this distinction as inadequate and unsatisfactory. Ausubel (1972) and Mowrer (1960) argue for an additional important element that clarifies the difference between shame and guilt; they believe that shame but not guilt, requires the presence of others.

In psychoanalytic theory (Freud,[1923] 1974, [1930] 1982) guilt and the superego are intimately related conceptualisations. The superego is seen as the structural component of personality concerned with *forcing* the ego into considering its moral, ethical or religious standards of acceptable behaviour. The superego influences the ego through the medium of guilt feelings. The superego is seen to develop through the process of complete or partial resolution of the Oedipus complex. The child who has harboured incestuous wishes towards the opposite sexed parent and murderous desires towards the same-sexed parent experiences a considerable anxiety since he is quite helpless and dependent in his relationship with them. Thus, the identification process leads to the adoption of standards of acceptable behaviour, and if these standards or values are perceived as in danger of violation or as having been violated, then the individual is beset by guilt feelings.

Friedman (1973) points out that since Freud has put much emphasis in relating *castration* and *separation anxiety* to the ego-superego conflict which leads to the emergence of guilt feelings, Freud's conceptions seem to offer an unclear explanation as to the development of guilt in females.

In Freud's view the development of the super-ego[1], which largely determines the capacity for guilt, is dependent on the way in which the Oedipus complex is resolved. As Freud ([1927] 1974) puts it: "The super-ego is the heir of the Oedipus complex". Yet the key role which the Oedipus complex is presupposed to have, has been under criticism. For example, Malinowski (1955), in his psycho-anthropological work, investigated how conflicts, passions, and attachments within the family vary across cultures and how this variation could undermine the presupposed universality of the Oedipus complex. He compares two types of family: "the patrilineal family of modern civilization" and "the matrilineal family of certain island countries in the North-western of Melanesia". Malinowski's conclusion is that it is the patrilineal society and the structure of the family within it that provide the conditions for the development of the Freudian Oedipus complex. Malinowski points out the limitation of the Oedipus complex. He writes:

> "It is not a universal phenomenon, as Freud imagined; its existence presupposes that certain social conditions obtain." (Malinowski, 1955, p. 67).

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[1] Freud has often used the terms: *super-ego* and *conscience* interchangably (e.g., Freud, 1927, 1930). However, some psychanalytic writers (e.g., Dilman, 1983; Fromm,1950; Hall and Lindzey, 1967; Jones, 1955) do distinguish between the two terms. The term *super-ego* is often characterised as being the internal representative of the moral precepts and ideals of society as interpreted to the child by his/her parents. Whereas *conscience* is seen as a subsystem of the *super-ego* representing the individual's system of accepted moral principles or values.

According to the classical psychoanalytic theorising, guilt is defined as an intensely negative emotional experience. While it is seen as having potentially pathological significance in the dynamics of personality (Fenichel, 1945), it is also maintained that all individuals are subject to guilt.

Psychoanalytic theory has given rise to several empirical studies of socialisation of conscience. Allinsmith (1960) examined the hypothesis that severity of guilt feelings expressed by young adolescent boys would relate to harsh treatment in infancy (early weaning, severe toilet training). The severity of guilt was measured by the use of projective stories depicting transgressions; early socialisation practices were reconstructed from maternal interviews. The findings indicated a clear contradiction to the prediction implied by the psychoanalysis. Severe early practices were related to low or moderate, but not high guilt, and the relation also depended on the type of transgression used to elicit a projective response. However, in two other studies inspired by the psychoanalytic theory some evidence was found that indeed severe weaning did relate to intense guilt feelings (Heinickle, 1953, Whiting & Child, 1953).

Hoffman (1971) examined the relation between guilt and identification with the parent in seven-grade children. None of the guilt-related phenomena (such as guilt feelings, confession, and acceptance of blame) related to identification with the parent (although some relations were found for other aspects of moral development).

Dilman (1983) supports Malinowski's view. He argues that the model of parent-child interaction which is presupposed to shape the Oedipus complex, can never be guaranteed to exist cross culturally. He states that the condition under which development occurs: how the child is treated, whether he is cared for or neglected, varies from one parent to another. The form in which the care takes: how often is fed, when he is weaned, whether he is fed by the same person - the expectations that govern the way he is treated, all this varies from one family to another, from one society to another. Thus, according to Dilman, conditions under which the Oedipus complex emerged and is resolved, cannot be assumed to be stable as long as there are cultural variations in the styles of child rearing.

For Freud the concept of *identification* seems to represent the 'cornerstone' of the process through which the child acquires a morality, become a moral individual. Moreover, identification, as in Freud's view, is a form of relationship. It is assumed to have a positive role in providing the child with new attributes and support needed to overcome obstacles with regard to the values he learns from his parents. However, as Dilman (1983) argues, there is more to moral learning than identification, for identification does not in itself create genuine autonomy. Hence, it can be said that concentrating exclusively on the child's identification with his parents does not do justice to his many-sided process of learning.

Kline (1982) discusses a number of studies which, in his view, support the existence of the Oedipus complex. However, evidence drawn from these studies were strongly rejected by Eysenck (1973) for their methodological inadequacy.

In summary, while psychoanalytic theory has offered a valuable discussion on conceptualisation of guilt, and has been a heuristic source of hypotheses, some of its conceptualisation have proven resistant or incapable of operational specification (see, e.g., Allinsmith, 1960; Dilman, 1983; Fisher & Greenberg, 1977; Hoffman, 1971; Kline, 1982), and others have been shown not to be universal (e.g., Dilman, 1983; Malinowski, 1955). In part, this may be because psychoanalytic theory was developed through clinical investigation for use in treating patients. Since Freud was not primarily concerned with laboratory investigation or more structured research, his hypotheses were not always cast in a rigorous model of theoretical relationships which could be used as a basis for quantitative measurement.

(2) The Socio-Behaviouristic Approach to Guilt

Although the psychoanalytic approach to guilt has attempted at providing insight into the process through which guilt phenomenon develops, its conceptualisation of guilt has been inadequate and inconclusive. In addition, the psychoanalytic approach has not attempted to provide a direct empirical measure for guilt.

A more systematic effort for establishing an operational conceptions of the origin and function of guilt has emerged through the employment of social learning theory (e.g., Mosher, 1965, 1968, 1979, 1980, 1985).

Within the framework of social-learning theory guilt is, generally, defined as a learned response that is evoked in association with real or anticipated transgression. As in the psychoanalytic theory, it is postulated that the self-punitive guilt reaction occurs in response to deviation from internalised social standards. However, in contrast to psychoanalytic theory, it is not through the process of *identification* and *introjection* that values. Based on classical learning theory, Longstreth (1974) has illustrated the way in which guilt may be acquired. He believed that guilt is developed in children through conditioning of parental punishment. He writes:

> "A child presumably first learns about non-permissible acts through parental punishment; that is, he performs a response R*x* that is followed by punishment, either physical or 'psychological'. We assume by definition, that the punishment elicits anxiety. Thus we have a sequence R*x* ⟶ punishment ⟶ anxiety. We see that such a sequence conforms perfectly to what we..called classical aversive conditioning: S1 ⟶ S2 ⟶ R2. Therefore we would expect anxiety to become conditioned to R*x*, just as in classical aversive conditioning we saw that R2 becomes conditioned to S1. Thus the child should learn to respond with anxiety to R*x* *without* parental punishment. He then has a 'conscience'-at least to R*x*. When he begins to make R*x*, anxiety is elicited and he feels 'guilty'." (Longstreth, 1974, p. 544).

In the social learning approach, moral inhibitions are conceptualised as conditioned avoidance responses. Because they have been punished for wrongdoing in the past and experienced aversive emotions, children come to associate anxiety with deviant acts and experience anxious arousal even in the absence of the socialising agent (Aronfreed, 1968; Grusec, 1983; Park, 1974).

Hoffman emphasises the role of child-parent interactions as an important source for the development of guilt (Hoffman, 1970a, 1970b, 1976, 1982). He argues that early discipline encounters during which parents attempt to elicit the child's prosocial behaviour and inhibit antisocial behaviour or selfish impulses are the primary context where the child's moral norms are acquired. Studies have shown that certain techniques used in child rearing practice such as love-withdrawal (Aronfreed, 1968; Sears, Maccoby & Levin, 1957), explanation of reasons (Hoffman & Saltzstein, 1967; Aronfreed, 1969), and the timing of punishment (La Voie, 1974; Walters, Parke & Cane, 1965; Aronfreed, 1968), are important factors in the establishment of guilt and self-regulation.

The Development of Guilt in children

An examination of existing studies on guilt as a personality variable has revealed that the majority of published empirical studies have begun investigating the acquisition processes of guilt in children. Although the present research is not concerned with the developmental aspect of guilt, it will, nevertheless, be necessary to give, here, some account of past work that utilised a social learning perspective in demonstrating how guilt is acquired.

Schill and Calhoun (1975) point out that although there have been different theories of how guilt and self regulation are established, these theories generally converge on the idea that through conditioning a person gradually develops a sense of guilt and also comes to regulate his own conduct. According to Schill and Calhoun, the young child begins by trying to do and say things that his parents approve of and trying not to do or says things that they consider wrong. The child, thus, discovers that when he does or say things his parents approve of, they give him their affection, and through conditioning this affection becomes coupled with his feelings of self-approval. He also discovers, however, that when he does or says things his parents disapprove of, they are likely to withdraw their affection or punish him in some other way, and through conditioning this becomes coupled with his feelings of guilt and self-reproof. As a result of this kind of learning, the child eventually may behave morally even though his parents or other people are not present. Gradually, his own internal thoughts and feelings replace external rewards and punishments administered by others, and he comes to regulate his own moral conduct.

Eysenck and Gudjonsson (1989) argue that the new-born and the young child have no social conscience and behave in a purely egocentric manner. They have to acquire "conscience" through a process of conditioning. Eysenck and Gudjonsson state that on thousands of occasions, when children behave in an antisocial manner, parents, teachers, peers, and others punish them in a variety of ways, thus associating through Pavlovian conditioning antisocial thoughts and actions with disagreeable consequences. As a result of this conditioned "conscience", such individuals will refrain from contemplating or carrying out antisocial activities because the contemplation or carrying out is accompanied by conditioned feelings

of fear/anxiety, anticipation of punishment and guilt (Eysenck & Gudjonsson, 1989, p.111)

In an original effort, Solomon, Turner and Lassac (1972, pp. 277-282) demonstrated how guilt can be acquired through the process of reward and punishment. They ran an experiment based on 6-month-old puppies. As reported by Solomon *et al.,* the experimenter sat on a chair, holding in his hand a rolled-up newspaper with which he could swat the puppies on the rump. Each of the puppies was deprived of food for two days and then was brought to the experimental room in which two dishes of food had been placed. One of these two dishes contained horse meat, which was very much liked by the puppies, and the other contained a less preferred commercial dog food. The puppies were punished as they approach the fresh meat. After few times of exercising punishment, the puppies had learnt to avoid the fresh meat (the taboo). The experimenter then turned to the "temptation testing" phase. Again the puppies were deprived of food for two days and then brought to the room, but this time the experimenter was absent. Again a choice had to be made between the two dishes. The puppies soon gobbled up the dog food, then began to react to the fresh meat. Solomon *et al.,* observed that the puppies who did try the forbidden food, displayed behaviour suggesting emotional disturbances which Solomon identified as 'guilt reaction'.

In their comments on Solomon's experiment, Eysenck and Gudjonsson (1989) acknowledge the important role of the conditioning process in the acquisition of guilt. They write:

> "None of the dogs in Solomon's experiments would have developed avoidance behaviour or feelings of guilt if they had not been subjected to a conditioning process..." (Eysenck and Gudjonsson, 1989, p. 117).

Research on moral development and on social-emotional competence in young children has been consistent with the premise that children are capable of guilt in the first years of life. Studies that support this position and identify systematic individual differences in children's patterns of guilt have been conducted by a number of psychologists. For example, the role of parental love and affection (as reinforcement) was investigated in a number of studies which generally indicate positive associations of parental warmth with conscience and guilt in children.

In an early study by Sears, Maccoby, and Levin (1957) and in a later studies by Burton, Maccoby, and Allinsmith (1961) and Zahn-Waxler *et al.* (1979), parental warmth and affection, as opposed to rejection, were found to be conducive to the child's development of conscience in general and guilt in particular. These findings have been corroborated by experimentally-oriented social learning studies in which warmth and nurturence have been manipulated (see, e.g., Radke-Yarrow & Zahn-Waxler, 1973; Zahn-Waxler & Radke-Yarrow, 1982; Zahn-Waxler & Kochanska, 1990).

Researchers who have been concerned with identifying guilt in young children (e.g. Radke-Yarrow *et al.,* 1973, 1982) have often adopted a research strategy in which the initial stage of investigation involved instructing mothers observe their children's responses to problems that they had caused or witnessed as bystanders. Mothers were reported to have been given extensive training in observing and reporting procedures, and the reliability of their observation was assessed.

Barrett and Zahn-Waxler (1987), for example, aimed at exploring the manifestation of guilt in very young children. Their study involved a normal volunteer sample of 24 mothers and their children provided normative data on developmental patterns of guilt (reparative behaviours) and altruism (prosocial behaviours). Children were followed longitudinally between the ages of 1 and 2½ years. Mothers observed their children's responses to others' negative emotions (e.g., sadness, pain, fatigue, anger), and they also stimulated emotions in the children's presence, describing the emotion and how it was expressed, the circumstances of the event, the child's affective, verbal, and behavioural responses to the emotions, and the mother's (and others') responses to the child. Two classes of events were observed: those where the child was a bystander to someone else's emotions (e.g., child sees father crying), and those where the child caused emotion (e.g., child hits and hurts sibling). As Barrett and Zahn-Waxler reported, different patterns of reaction were observed in the children tested. These reactions include anxiety, remorse, reparation, verbal sympathy, and verbal apologies.

Unger (1962) defines guilt as a two-stage mediating process. The first stage is a verbal evaluative response (e.g., "I shouldn't have done that!"). The verbal evaluation process of the first stage triggers the second stage, the autonomic-visceral reaction of fear. Unger's analysis attempts to specify the contingencies and conditions of parent behaviour and parent-child relations which result in the development of guilt. His assumption that emotions can be verbally mediated and that semantic conditioning can put autonomic responsiveness under the control of verbal mediating processes, has been supported by a number of further studies (e.g., Luria and Vinogradova, 1959). Unger (1962) believes that the nurturence of the infant and young child by a loving and caring parent develops a powerful

dependency in the infant. The parent is closely associated with the infant day after day and week after week and throughout the early months and years of life the parent is responsible for the termination and amelioration of hurtful and frustrating situations. Accordingly, the presence and availability of the parent become matters of high importance for the young child and conversely the absence or nonavailability of the parent evokes "dependency anxiety" - the prelude of the development of guilt. Unger believes that nurturence of the child and the concomitant development of the capacity for dependency anxiety under conditions of parental absence or nonavailability set the stage for guilt training. According to Unger, and other social learning theorists this training begins, or at least begins to take effect, at about the age of four or five*. When the parent observe the child's transgression the child is confronted by a 'stern-faced' parent who says in a harsh voice: "How could you do that. That was a bad thing." The incident contains a verbal evaluation: "Never do that again, bad, bad, shame you", and the parent's words and action, according to Unger, are interpreted by the child as signs of withdrawal and separation, and hence they elicit dependency anxiety. After a number of such training episodes, the child learns to evaluate his or her behaviour in the absence of the parent. "I did a bad thing; Mummy or Daddy says that's wrong". Unger maintains that these evaluation-mediating responses interweave with "reverberating anxiety" over a more or less extended period of time. Eventually the child learns to evaluate the situation in advance and avoid the transgression and hence the 'dependency anxiety' - the affective component of guilt as suggested by Unger.

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* Note that in Zahn-Waxler' view, discussed earlier, the child could estabilsh the capability of experiencing guilt feelings just after the second year of age.

To summarise, guilt, from the social-learning perspective, is considered to be a learned, predictable response evoked by specifiable antecedent conditions. Guilt may manifest itself in resisting temptation, inhibition of the expression of certain behaviours or the disruption of cognitive processes in situations where less conforming behaviour may be more salient. Another assumption made by social-learning theory, is that guilt may be used as an index of internalised values and standards. Guilt is viewed as having an important self-regulatory role. However, it appears that, while researchers have sought a more formalised approach to guilt through the adoption of social learning principles, the operationalisation of guilt has not been addressed through a direct measuring instrument.

A more formal assessment approach to guilt which has largely succeeded in responding to this inadequacy, has been that of Donald Mosher. Mosher's techniques (e.g., Mosher, 1965, 1966, 1968, 1979, 1985, 1988) for assessing guilt will be discussed in some detail in the following section.

Mosher's Approach to the Assessment of guilt-proneness

Background

In his pioneer work, Donald Mosher (Mosher, 1965, 1966, 1968, 1979, 1985) has adopted Rotter's social learning theory (Rotter, 1954) in developing and validating a quantitative measure of guilt-proneness.

According to Rotter's social-learning theory (Rotter, 1954), the probability of the occurrence of a given behaviour in a particular situation is determined by two variables: the *subjectivity* held (expectation) that the particular behaviour in question will be reinforced and the *value* of the reinforcer to the subject. Mosher (1965, 1966) has applied this formula to the study of guilt proneness. According to Mosher, the *expectancy* variable subsumes both fear and guilt. He states that the expectancy concept may be viewed as being composed of an expectancy for external punishment (fear) and expectancy for internal punishment (guilt). Mosher distinguishes between inhibition which is based on fear of external punishment and inhibition which is based on the anticipation of guilt. Mosher viewed the expectancy notion, used in Rotter's basic formula, as comprising (**a**) an external expectancy for external positive or negative reinforcement, and (**b**) an internal expectancy for internal positive or negative reinforcement. The internal expectancy is assumed to be a generalised expectancy based on the individual's past reinforcement history, which is to some degree 'independent of' situational cues in regard to the probability of external reinforcement. In Mosher's view this internal expectancy leads to guilt whereas external expectancy would normally lead to anxiety, fear, or shame.

Mosher (1965, 1968, 1979, 1980) has conceptualised the construct of guilt-proneness within Rotter's social learning theory (Rotter, 1954). Mosher (1966) reasoned that individuals who violated a religious, moral, or ethical code would be significantly influenced (a) by actual or anticipated external punishment-fear arousing condition and (b) internal punishment-guilt.

Mosher (1965, p. 162) defines guilt as "a generalized expectancy of self-mediated punishment (i.e., negative reinforcement) for violating or failing to attain internalized standards of proper behaviour" (Mosher, 1965, p.162).

The "expectancy for guilt" was defined by Mosher as a function of the individual's social learning history during which the internalisation of standards was reinforced by producing approval and avoiding punishment. The term: "standards of proper behaviour" was defined by Mosher (1965) as encompassing both the internalised prohibitions "should not's" and the internalized pósitively valued ideal-goals "ought to's" which relate to the individual's feelings of self-worth. The generalised expectancy for guilt (GE^G) is a function of the person's past history of reinforcement in regard to violating standards of proper behaviour. The generalised expectancy for guilt develops in a context of parent child relationships in which delayed external punishment has frequently been exercised for improper or immoral behaviour as defined by the parents. Delayed punishment, as emphasised by Mosher, has been found be influential in the establishment of the expectancy for internal punishment - guilt (see, e.g. Aronfreed, 1968; Solomon *et al.*, 1972).

The generalised expectancy for guilt is initially anticipatory of vague and delayed punishment but becomes anticipatory of self critical or self punishing behaviour with the adoption of standards of proper behaviour. The self-appropriation or internalisation of standards of proper behaviour determines its relative independence to situational cues. This appear to be in line with the view that shame but not guilt requires the presence of others (e.g., Izard, 1977; S. Miller, 1985; Ausubel, 1955).

Mosher states that while situational cues would lead to the categorisation of the situation as a guilt-related situation, the inhibitory potential of the GE^G is a function of behaviour-internal reinforcement sequences which are relatively independent of external expectancies for punishment (Ee's) based on behavioural-external reinforcement sequences in the current situation. According to Mosher, situational cues affect the GE^G only by activating the expectancies which are established as a function of previous childhood experiences.

According to Mosher, the external expectancy for punishment is a direct function of situational cues related to the subjective probability that the unacceptable behaviour will lead to external negative reinforcement. This type of conceptualisation permits the retention of the important distinction between fear of external punishment and guilt.

A guilt measuring instrument

Mosher has developed a quantitative self-administered scale for measuring guilt-proneness: The Mosher Guilt Scale (MGS; Mosher, 1965, 1966, 1985, 1988). The primary stage in developing the MGS involved generating items around a variety of behavioural referents that Mosher observed to have theoretical relevance to the guilt construct. These included reports of painful feelings of self-criticism, self-remorse, self-blame, confession, expiatory and restitutional behaviours, resistance to temptation, and inhibition of hostile and sexual behaviour.

Utilising a sentence-completion technique, Mosher (1965) carried out a survey on emotional reactions to situations representing these behavioural referents for the guilt construct in the American culture. The preliminary item analysis of the Mosher Guilt Scale (Mosher, 1965, 1966) resulted in three aspects of guilt disposition: Morality-conscience guilt: guilt over violating a moral code, Hostility guilt: guilt elicited as a result of feelings of hostility and by act of aggression, and Sex guilt: guilt associated with thoughts, feelings and actions in sexual context. After conducting a further series of item analyses including internal consistency (Mosher, 1965), multi-trait multi-method techniques item analyses (Mosher, 1966, 1968), a refined version of the scale measuring three aspect of guilt was produced. Investigation of the validity and reliability of the MGS, have provided substantial

support for the psychometric appropriateness of the MGS* as a measure of guilt (e.g. see, Abramson *et al.,* 1977; Fehr, 1979, 1988; Kugler & Jones, 1992; Persons, 1970a, 1970b).

Mosher (1965) has provided an empirical evidence for the distinction between fear of external punishment and guilt. He investigated aspects of interaction of the external expectancy for punishment (Ee) and generalized expectancy for guilt (GE^G). Mosher speculated that situational cues would largely determine the strength of the Ee. In contrast, the GE^G, according to Mosher, would be relatively independent of present situational cues since it is based on a history of behaviour-reinforcement sequences which have become internalised or self-controlled. Mosher's hypothesis was that the subjects who had relatively weak GE^G would be more influenced by situational cues related to external negative reinforcement than would subjects with stronger GE^G. Mosher did not rule out the possibility that subjects with a strong GE^G would not be influenced by situational cues. However he stressed the fact that the influence of situational cues regarding the probability of punishment would affect their Ee but not their GE^G. In his investigation, Mosher administered the Mosher Guilt Scale (MGS) to 80 subjects. Subjects then were presented with four experimental conditions. The first represented an *arousal condition* where all subjects took part. In this experimental condition, subjects were shown a number of pornographic pictures and were asked to rate them on several characteristics. After completion of the arousal task, the subjects were assigned randomly to *fear-induction* and *fear-reduction conditions.* This *fear-*

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* More details about the MGS scale are found in the "Measures" section, Chapter 9.

induction was intended to serve as "situational cues leading to an expectancy for punishment for behaviour related to sex" (Mosher, 1965, p. 164). The *fear-reduction condition* was intended to "provide situational cues which would decrease any apprehension that behaviour related to sex would be disapproved or punished" (Mosher, 1965, p. 164). Finally all subjects were presented with a perceptual defence task (based on a list of three types of verbs) as a measure of inhibition.

Mosher's findings supported the prediction that subjects who were relatively uninfluenced by an internalised sense of guilt would be more dependent on external cues in determining the inhibition-expression of unacceptable behaviour. Mosher reported that low guilt Ss were significantly ($p = < 0.05$) more influenced by situational cues concerning the probability of external punishment or disapproval than were high guilt Ss. Mosher explains this finding in terms of differential sensitivity to external cues that are related to punishment between persons with highly developed and poorly developed internalised standards governing unacceptable behaviour. Mosher (1965, p. 166) states that: "A person who has internalized standards which inhibit culturally unacceptable behaviours will inhibit their expression regardless of the chances of being punished by others".

The Inhibitory Function of Guilt-Proneness

Mosher and others (e.g., Mosher, 1966, 1967, 1968, 1980; Mosher *et al.*, Sison, Fehr, and Muhoberac, 1981; Schill and Chapin, 1972; Oliver and Mosher, 1968) believe that guilt primarily functions as an inhibiting, resisting and suppressing mechanism. The process of inhibition is propelled by internal or self-mediated punishment (negative self-evaluation).

A number of empirical studies have been devoted to examining the effect of guilt in inhibiting the occurrence of particular class of behaviour. For instance, response inhibition on the Holtzman Inkblot Technique (HIT) has been found to be related to level of guilt proneness, as measured by the Mosher Guilt Scale (Sison, Fehr & Muhoberac, 1981). Sison, Fehr and Muhoberac were interested to find out whether high levels of guilt-proneness would demonstrate response inhibition on the HIT factors. Using Mosher Guilt Scale as a measure of guilt and the HIT for probing response inhibition, Sison *et al.* conducted a correlational analysis based on 44 Ss. They reported that the high-guilt subjects tended to inhibit certain types of inkblot responses.

Sison *et al.* found that guilt scores correlated significantly with the following HIT response factors: *Response-length* ($r = -0.40$, $p < 0.01$), *Movement* ($r = -0.37$, $p < 0.02$), *Integration* ($r = -0.35$, $p < 0.05$), *Human* ($r = -0.38$, $p < 0.02$). Their study demonstrated that high-guilt subjects do inhibit certain types of inkblot responses. It is apparent that the study of Sison and his colleagues was supportive of the hypothesised inhibitory function of guilt-proneness.

Mosher (1965, 1968) theorised that high-guilt subjects would limit responses relating to involvement in socially or morally unacceptable behaviour more than low guilt subjects. Research employing the Mosher Guilt Scale has supported this view. For example, Mosher (1966) demonstrated that subjects who score high on hostility-guilt are less likely to be conditioned to hostile verbs in verbal operant conditioning task than subjects low on hostility guilt. Moreover, Mosher (1966) found that subjects who score high on total guilt were more likely to be conditioned to 'superego verbs' in a verbal operant conditioning task than subjects low on total guilt.

In addition, laboratory studies of guilt indicated that high-guilt delinquents expressed less retaliatory verbal aggression (Mosher, Mortimer & Grebel, 1968). Similarly, Oliver and Mosher (1968) reported that after aggression in the laboratory, high-guilt males manifested more guilty affect than the low-guilt counterparts. Oliver and Mosher (1968) also found that homosexual prisoners are less guilty over sex than are heterosexual prisoners. Persons (1970b) found that Mosher Guilt Scale scores to be negatively correlated (*r's* ranged from $r = -0.20$ to $r = -0.49$, $p < 0.05$) with the MMPI subscales associated with acting-out (viz. *Ma, Pd* and *F*). On the other hand, Persons found positive correlations (*r's* ranged from $r = 0.20$ to $r = 0.27$, $p < 0.05$) between guilt and the MMPI subscales which relate to inhibition(viz. *D* and *Si*). Schill and Chapin (1972) also examined the effect of guilt-proneness on certain type of sexual-related behaviour. They reported that high-guilt men read erotic magazines less in a waiting room than their less guilt-prone counterparts.

To conclude, there appears to be considerable support for Mosher's conceptualisation that guilt-proneness inhibits immoral or socially unacceptable behaviour. Research findings also demonstrate that guilt, as a personality predisposition, has a powerful explanatory utility.

An even more interesting line of research, has been devoted to the investigation of the inhibitory function of guilt in the area of social deviancy with special emphasis on illicit drug abusing and offending behaviour. This will be discussed in the following chapter.

Chapter Three

The Inhibitory Function of Guilt-Proneness as Related to Illicit Drug Taking and Criminal Behaviour: Empirical Evidence

(1) Guilt in Illicit Drug Takers

Fehr (1988) conducted a study in which he compared guilt-proneness in adult alcohol drinkers (N = 25) whose drinking of alcohol could be described as normal and a second group who had voluntarily placed themselves in an alcoholism treatment centre (N = 25). On the Mosher Guilt Scale, Fehr hypothesised that individuals who had referred themselves to the treatment centre would be higher in morality-conscience guilt than the control group of the normal drinkers because high guilt would tend to lead to negative feelings about one's behaviour and to seeking to remove the source of that negative self-appraisal.

With regard to both the sex-guilt and hostility-guilt scales of the MGS, Fehr anticipated that the voluntary alcohol treatment group would score higher than the control group. He reasoned that since most people show consistency of guilt levels, the voluntary alcohol abusing group would also demonstrate higher scores on the sex-guilt and hostility-guilt measures than the control group.

The results reported by Fehr were generally in support of his hypothesis. The voluntary admitted alcohol patients manifested higher morality-conscience guilt scores than the control group ($F = 5.91$, $p < 0.02$). The results for sex-guilt were in the same direction ($F = 85.3$, $p < 0.01$). These results indicate quite a large effect size for the differences in sex-guilt (Cohen's $d = 0.90$) and a moderate effect

size for the differences in morality-conscience guilt (Cohen's d =0.71). However, Fehr (1988) found no significant differences on hostility-guilt. These results (despite the relatively small sample size) do provide evidence of the ability of the guilt-proneness variable to discriminate between alcohol dependent and non-alcohol-dependent groups.

Ungerer, Harford, Brown, and Kleber (1976) posited that within the illegal drug use community, some drug abusers may prefer sedatives (e.g., phenobarbital, benzodizepine, heroin) rather than stimulants (e.g., amphetamines, cocaine) because of the sedative capability to reduce either the inhibitory effects of guilt feelings or the frequency of behaviours associated with punishment.

The main hypothesis that Ungerer and his colleague made was that drug abusers who prefer sedatives would demonstrate a greater guilt scores than would drug abusers who do not prefer sedatives. Ungerer *et al.*, collected data from seventy clients of a drug rehabilitation programme at the Drug Dependence Unit of the Connecticut Mental Health Centre (in the USA). They utilised the Mosher Guilt Scales (Mosher, 1966) for measuring guilt-proneness and an "anonymous personal history and drug preference inventory" designed by the authors. The findings reported by Ungerer *et al* indicated significant differences in mean guilt scores among three types of drug abusers: *sedative abusers*, *stimulant abusers*, and *mixed-drug abusers* ($F = 9.28$, $p< 0.001$). They also found that persons in the *sedative* group had a significantly higher mean guilt-proneness score than did clients in the *stimulant group* ($p< 0.001$). In addition, they observed that the sedative group had a significantly higher mean guilt-proneness score than did clients in the mixed group ($p< 0.01$).

The findings reported by Ungerer *et al* did indicate a support of the role of guilt as a personality variable in mediating personal preferences for illicit drug use among the drug abuse community. Their findings seem to agree with the work of a number of researchers (Braucht, Kirby & Berry, 1978; Carrl & Zuckerman, 1977; Jones, 1968, 1971; Henriques, Arsenian, Cutter & Samaraweera, 1972; Penrod, Epting & Wadden, 1981; Sutker, 1974; Zeidenberg, 1975, p. 65) which suggest that particular types of drug abuse tend to be associated with particular spectrum of personality traits.

In their interesting study, Schill and Althoff (1975) conducted a study in which they demonstrated the ability of the guilt-proneness variable to differentiate individuals in terms of illegal drug experiences, knowledge, and attitudes. Schill and Althoff's investigation was concerned specifically with examining how drug experiences, knowledge, and attitudes relate to the subject's level of guilt. The subjects involved in their study were 121 (58 male and 63 female) college students. Schill and Althoff utilised the Mosher Guilt Scales (Mosher, 1966) as a measure of guilt and a drug use questionnaire, intended to gather information on subjects' attitudes toward drugs, knowledge about drugs, and experience with drugs.

Using a series of analyses of variance on the data, Schill and Althoff reported that low-guilt subjects manifested a less-critical attitudes towards marijuana ($F = 8.40$, $p < 0.01$), hallucinogens ($F = 8.56$, $p < 0.01$), stimulants ($F = 7.61$, $p < 0.01$) depressants ($F = 11.26$, $p < 0.01$) and opiates ($F = 4.45$, $p < 0.03$) than the high-guilt group. Regarding drug experience, Schill and Althoff stated that low-guilt

subjects reported significantly greater intake of a variety of illegal drugs ($F = 5.99$, $p< 0.01$) and indicated greater life time use of marijuana ($F = 11.18$, $p< 0.001$), hallucinogens ($F = 12.44$, $p< 0.001$), stimulants ($F = 10.02$, $p< 0.01$), depressants ($F = 10.42$, $p< 0.01$).

Moreover, Schill and Althoff found that low-guilt subjects to indicate a significantly greater likelihood that they would use these drugs in the future. Finally, with regard to the drug knowledge variable, Schill and Althoff reported that the low-guilt group were more familiar with different types of drugs as well as with methods related to their administration than the high-guilt group ($F = 7.34$, $p< 0.01$).

Indeed, these findings do suggest a clear relationship between guilt-proneness and experience, knowledge, and attitudes towards the use of illegal drugs. Furthermore, Schill and Althoff's findings provide support to Mosher's (1966) conceptualisation that guilt as a personality predisposition results in the inhibition of behaviours that are culturally prohibited.

In a clinical investigation, Anufriev and Treskov (1984), examined 154 men alcoholic patients undergoing treatment for alcoholism at two rehabilitation centres in Moscow, in terms of their personality characteristics. Anufriev and Treskov reported that 15.58% (24 Ss.) of alcoholic patients were characterised by a marked sense of guilt associated with a tendency towards self-condemnation over the excessive use of alcohol. The patients' guilt feelings were also observed to be associated with their general outward manner: facial expressions reflecting sorrow; timid, embarrassed behaviour and slightly retarded motor activity.

R. Potter-Efron (1988) discusses guilt in relation to its psychotherapeutic role. He views guilt as an interactive aspect of the human condition that is deeply involved in the treatment of alcoholism and chemical dependency. Potter-Efron argues that guilt feelings can motivate the individual for reparative responses. He believes that a normal amount of guilt can create the need for repairing any damage done to self or others by the individual.

Potter-Efron relates the discomfort of guilt to four main behavioural consequences: First the discomfort of guilt often leads the transgressor to confess the behaviour. Second it leads them to accept personal responsibility for any damage to self or others. Third it leads them to attempt to undo the damage and/or a willingness to accept punishment for the behaviour. Finally, the discomfort of guilt reaction is likely to motivate the transgressor to seek forgiveness. Accordingly, completing this process allows the individual to return to good standing in the community.

Potter-Efron states that this reparative process is particularly evident with recovering alcoholics who seek the Alcoholics Anonymous community. Potter-Efron has discussed several points regarding the role of guilt in the process of the treatment of alcohol and substance dependence. He states that counsellors working with guilt must approach the individual with a non-judgmental attitudes, although acceptance does not indicate approval of his behaviour (Stein, 1968, p. 162). Another important objective is to help the individual separate his unacceptable behaviour from his core identity. He, therefore, needs to learn that he is responsible for but not wholly defined by his transgression.

However, R. Potter-Efron (1988) and P. Potter-Efron (1990) warn that guilt alone cannot direct the treatment process towards a positive outcome. Therefore, the alcohol or substance abuser who expresses the intention that he will stay sober because of his guilt should be confronted with the likelihood that his guilt may lead to a superficial commitment if left unattended.

To conclude, the above mentioned studies do, indeed, provide an additional thread of evidence for the importance of guilt-proneness, both as a means of detecting individual differences among substance abusers and as a vehicle for the prediction of certain behavioural patterns. The reviewed studies also stress the value of exploring the effect of guilt-proneness in relation to therapeutic progression.

(2) Guilt in Criminals

Another line of research has focused on the investigation of level of guilt in the young criminal population. For example, Mosher and Mosher (1967) investigated the differences in guilt scores on the Mosher Guilt Scale (MGS; Mosher, 1965) in a group of criminal offenders. Based on the data of 162 prisoners in Ohio State, Mosher and Mosher observed a highly significant difference between the mean total guilt scores of the first-time and regular criminals ($t = 4.93$, $df = 154$, $p < 0.001$). These results would, in fact, indicate a large effect size (Cohen's $d = 0.735$). Mosher and Mosher also observed a trend for the criminals who had committed violent crimes (e.g., murder, sexual assault, fighting) to score lower on total guilt than the subjects who had committed non-violent or minor crimes (e.g. crime against property).

It was concluded by Mosher and Mosher that their findings provide support as to discriminability of the MGS measure of guilt-proneness to identify subtypes of criminal offenders (i.e., first-timers and recidivists). In addition, the observed trend towards differentiating the criminal offenders who committed violent crimes from those offenders who committed non-violent crimes, are well in line with Mosher's theorising (Mosher, 1965) that guilt-proneness invokes inhibition of hostile and immoral acts.

Schill and Schneider (1970) reported that guilt was inversely related to the amount of hostility expressed on both a self-report and projective measures of hostility. These findings are in agreement with Mosher's theory that high guilt-

proneness tends to inhibit responses leading to, hostile, immoral, or socially unacceptable behaviour.

In a study of 36 male young offenders, Ruma and Mosher (1967) reported high consistency on their guilt levels as assessed by two different measures. One of these measures was the MGS (Mosher, 1965). The second was a semi-structured interview measure of guilt over the transgression which had lead to the detention of the offenders. Ruma and Mosher reported a significant correlation ($r = 0.53$, $p< 0.01$) between the offenders' MGS total scores and a global clinical rating which was assessed by the guilt interview.

Another study was conducted by Persons (1970a) in which he examined the relationship between guilt and commission of crimes by the young in the American culture. Persons's hypothesis was based on Mosher's findings (Mosher, 1965) that guilt over hostility prevented the expression of verbal hostility in a verbal conditioning paradigm. Persons tested 75 male young offenders aged between 16 and 19 years who were placed in a maximum security reformatory centre. The results, reported by Persons, were in support of the hypothesised negative relationship between guilt, as measured by the MGS (Mosher, 1966), and crime. It was found that the negative relationship between sex-guilt and sexual crimes was higher than between sex-guilt and violent crimes ($r = -0.60$, $p< 0.01$).

In addition, it was reported that the relationship of hostility-guilt to violent crimes was also higher than the relationship of hostility-guilt to sexual crimes. Moral-conscience guilt was found to correlate significantly and negatively with

both sexual-related crimes (r = -0.40, p< 0.01) and violent crimes (r = -0.65, p< 0.01). Moreover, total guilt was also found to correlate significantly and negatively with sex crimes (r = -0.52, p< 0.01), and with violent crimes (r = -0.60, p< 0.01).

Person's results demonstrate the ability of guilt-proneness to differentiate two types of anti-social acts on the one hand, and appear to provide a successful replication of Mosher and Mosher's (1967) study.

Gudjonsson and Singh (1989) investigated the relationship between type of crime and attribution of blame by 139 British offenders for their criminal acts. The authors used the Gudjonsson Blame Attribution Inventory (GBAI; Gudjonsson, 1984). Gudjonsson and Singh reported that subjects who had committed sexual crimes displayed the greatest amount of guilt and self-condemnation, and remorse concerning the committed crime. This was followed by offenders who had committed violent acts against the person. In an effort to extend this investigation, Gudjonsson and Pertursson (1991) conducted a study in which they examine 98 Icelandic criminals. Using the Gudjonsson Blame Attribution Inventory, the authors reported that sex offenders scored significantly higher than those who had committed violent crimes (F = 6.3, p< 0.001). These findings which were based on Icelandic criminal subjects, were consistent with those found by Gudjonsson and Singh (1989).

Although guilt-proneness, in the above two studied, was assessed via a measure of attribution of blame rather than a direct measure of guilt, these two studies do make a valid contribution to the accumulated research evidence which indicate a

negative relationship between predisposition to guilt and involvement intentionally in anti-social behaviours (e.g., Mosher, 1967; Persons, 1970a; Ruma & Mosher, 1967).

The various studies which have focused on the examination of individual differences in guilt-proneness with criminal or drug abusing population, have demonstrated that the frequently held view which tends to label deviant individuals as being incapable of experiencing guilt feelings, may be too exaggerated.

Some criminological psychologists (e.g., Hare, 1980; Hare & Cox, 1978; Spielberger, Kling & O'Hagan, 1978) stress the importance of drawing a distinction between criminals with a marked level of psychopathy (usually individuals with a *T* score of >70 on the MMPI *Pd* Scale) and those who show moderate or low psychopathic tendencies. Therefore, it is argued that only when psychopathic tendencies are high, low-guilt predisposition may be detected in individuals.

A number of psychologists believe that the individual's level of psychopathy can be accounted as a 'good' predictor of inability of experiencing guilt feelings. For example, a study of Gray and Hutchinson (1964, pp. 9, 10) examined psychiatrists' views about the definition of psychopathy. They surveyed 677 Canadian psychiatrists (using questionnaire) in respect of their view of psychopaths. The results indicated that about 90% of the respondants characterised the 'psychopathic personality' as having certain diagnostic features includes: "lacks sense of responsibility", "lacks moral sense", "is unable

to experience guilt", "is emotionally immature, and lacks control over impulses".

In their book: "*the Criminal Personality*", Yochelson, Samenow, and Aronson (1976, pp. 89-91) discussed a number of works in the literature which support the diagnostic description attached to the psychopathic personality as being irresponsible and unable to experience guilt.

McCord and McCord (1956) describe the psychopath in the following manner:

> "The psychopath is asocial. His conduct often brings him into conflict with society. The psychopath is driven by primitive desires and an exaggerated craving for excitement. In his self-centered search for pleasure, he ignores restrictions of his culture. The psychopath is highly impulsive. He is a man for whom the moment is a segment of time detached from all others. His actions are unplanned and guided by his whims. The psychopath is aggressive. He has learned few socialized ways of coping with frustration. The psychopath feels little, if any guilt. He can commit the most appalling acts, yet view them without remorse. The psychopath has a warped capacity for love. His emotional relationships, when they exist, are rather meager, fleeting, and designed to satisfy his own desires. These last two traits, guiltlessness and loveness, conspicuously mark the psychopath as different from other men." (McCord and McCord, 1956, pp. 16-17).

Cleckley (1964), Farrington (1994), Hare (1980), Spielberger, Kling, and O'Hagan (1978) gave descriptions of the psychopathic person, similar to that provided by McCord and McCord (1956), and Yochelson *et al.* (1976).

Schuck, Dubeck, Cymbalisty and Green (1972) demonstrated significant negative correlations between 'the psychopathic factor' of the Quay Personal Opinion Inventory (Quay, 1966) and both the Mosher Hostility-Guilt subscale (r =-0.38, p< 0.01) and the Mosher Morality-Conscience Guilt subscale (-0.34, p< 0.01).

Their results based on the data of 115 American delinquent adolescents.

A number of researchers have begun to focus on the role that guilt plays in the process of psychotherapy (e.g., Czunder, 1985; Czunder & Mueller, 1987; Nergaard & Sliberschatz, 1989; Potter-Efron, 1988). Czunder strongly believes that the failure of efforts to provide a practical approach to changing the criminal have largely been a result of emphasising the search for environmental causes while paying little attention to impact of psychological processes on the development of deviant behaviour. Czunder has developed a moral-cognitive approach which emphasises strategies for understanding the nature of criminal thinking. Czudner's approach is based on the stimulation of guilt feelings, remorse and elevation of a sense of responsibility.

Cromer (1981) has discussed a religious-spiritual approach. He believes that teaching of spiritual values "will enable young law breakers to halt their drift into delinquency". Guilt was discussed, by Cromer, as an essential factor of change. He particularly stresses the importance of a number of strategies including the stimulation of feelings of guilt and remorse, and the resolution not to repeat the same errors.

In summary, the foregoing studies do, in fact, provide clear evidence for the importance of guilt-proneness, as a personality disposition, in influencing cognitive processes with regard to involvement in forms of anti-social acts such

as illicit-drug taking and criminal offending behaviour. These studies have also demonstrated the psychometric value of guilt-proneness as a personality variable with discriminatory power.

Investigations that have been directed to the examination of individual differences in guilt-proneness among illicit-drug-abusers, have shown that measures of guilt-proneness were able to discriminate between sub-groups of illicit-drug dependents, and criminals. Guilt-proneness measures have been found to differentiate illicit-drug takers who prefer sedatives from those who prefer stimulant drugs, first-time criminal offenders from recidivists, and criminals convicted of violent crimes from criminals committing non-violent crimes.

Psychotherapy-oriented research dealing with guilt-proneness in illicit drug abusers and offenders has also demonstrated the significant role of guilt-proneness as a psychological mechanism with considerable importance. In general, the work of recent clinical researchers tends to emphasise the utility of guilt-proneness in detecting differences among sub-groups of offenders and substance abusers and in exploring ways of improving the progress of therapy.

Building on the importance of the role of guilt-proneness in inhibiting the occurrence of patterns of illicit-drug use and criminal offending behaviour which has been demonstrated by studies in Western cultures, the present study

attempts to explore this role in relation to the current problem of juvenile illicit drug use and criminal offending behaviours in Saudi Arabia.

My aim has been to examine the role and pattern of guilt-proneness in the Saudi juvenile drug-abuse, offender, and normal population, through the use of a psychometric instrument (the GPS) that is developed in the context of the Saudi culture. It was also the intention to examine the extent to which the results of the present research agree with those conducted in the Western cultures.

Chapter Four

Alcohol, Drug Abuse, And Crime Within The Islamic Normative System (*Shariáh*)

As has been discussed In Chapter **2**, the study of guilt-proneness, as a personality variable, has advanced through the adoption of a social learning theory approach. It was also pointed out that guilt within the social learning approach is defined by Mosher (1965, 1980) as a generalised expectancy for self-mediated negative reinforcement that is evoked as a result of violating particular internalised standards of acceptable behaviour. In Chapter **3**, available empirical studies that relate to exploring the role of guilt-proneness in inhibiting the occurrence of particular patterns of deviant behaviour, demonstrate evidence for the decisive role that guilt-proneness plays in human functioning.

However, referring to the social learning theory approach to guilt-proneness, the notion of internalised standards of acceptable behaviour which constitutes a crucial element for evoking guilt, varies from one culture to another. Each culture has its religious, moral, and social frame of reference, and therefore what arouses guilt feelings in an individual of a given culture may not be categorised as such for an individual of a different culture.

Indeed, the notion of standards of proper conduct would designate the more broad term *normative system* (Ross, 1975) which embodies standards that are socially, religiously, or morally acceptable by the majority of members of a given culture. Since Islamic teachings are the main source of legislation in both Saudi civil and

criminal law (e.g., Al-Farsy, 1986, Hasanein, 1982; Ministry of Information, 1993), Islamic teachings constitute a main source of the recognised normative system of the Saudi culture.

It will, therefore, be necessary, in this Chapter, to discuss how illicit-drug taking and offending behaviour as forms of violation, are dealt with in the Islamic-oriented *normative system* in Saudi Arabia.

(*a*) Alcohol and Drugs

Islam has prohibited the drinking of intoxicant liquor. Any drink that intoxicates is prohibited regardless of its source, whether made from fruits, wheat, or chemically manufactured.

Arabs during the pre-Islam-period and even at the beginning of Islam, considered drinking alcoholic liquor as a source of joy, benevolence, good food and indispensable tool to keep good health. So it is not surprising from the history of the pre-Islamic Arabs that heavy drinking and generous serving of liquor and food were signs of magnanimity for which the individual and tribe received great honour and praise. Ancient Arabic poetry is full of works glorifying excessive drinking and gambling as signs of manhood. A poem cited by Hassan Ibn-Thabit before converting to Islam, is an example of how much liquor was valued by the Arabs:

> When we drink liquor,
> We become like kings,
> We feel like lions,
> Who never fear confrontations.
> (Documented in Raiyan, 1984, p. 62)

Islam did not prohibit drinking when it was first introduced; it took a period of about three years to declare a complete ban on using intoxicant liquor (Al-Sabagh, 1994). According to Islam, the forbidding of drinking was achieved in three stages. First, an early Quranic verse concerning drinking has stressed the bad influence that intoxicant liquor can bring to man:

> "They ask thee (O Prophet) concerning wine and gambling. Say in them is a great sin, and some profit, for men; but the sin is greater than the profit." (Holy Quran, 1:219).

In the second stage, the consumption of intoxicant liquor was restricted at prayer:

> "O believers do not pray when you are drunken until you know what you are saying"(Holy Quran, 2:43).

At this stage, intoxicant liquor was not completely banned, and some continued to drink saying that Allah has not prohibited drinking. At the third stage, a Quranic verse has strongly announced the prohibition of drinking intoxicant liquor for all Muslims:

> "O you who believe, wine and games of chance and idols and divining arrows are only abomination, a handiwork of Satan. Leave it aside in order that ye may succeed. Satan seeks to cast among you enmity and hatred by means of wine and gambling, and would keep you away from remembrance of Allah and from prayer; will ye not then desist?" (Holy Quran, 3:90, 91)

The Prophet Mohammed has said:

> " Wine is a mother of all vices." (documented in Al-Sabagh, 1994, p. 11)

Another saying by the Prophet Mohammed also indicates that:

> "Allah has cursed wine or intoxicants, and the person who drinks it, the person who serves it, the person who sells it and buys it, the person who brews it, and the person who gets it brewed and extracted, the person who carries it, and the person to whom it is carried." (documented in Al-Sabagh, 1994, p. 99).

This saying of the Prophet indicates that not only the consumption of intoxicant materials is forbidden in Islam but also the whole business relating to intoxicant drugs is forbidden. All the jurists of the four juridical schools in Islam agree that a drunkard must be punished. However, punishment is not applied to a child or an insane person (Behnasi, 1983).

Although other types of new drugs (i.e., including all currently recognised illicit drugs) have not been explicitly discussed in early Islamic legislation, they are forbidden on the ground that these drugs share with alcohol the same harmful effect on man. Muslim scholars' position on the use of drugs has been based on both Quranic texts and Prophet Mohammed's traditions which strongly stress the prohibition of the consumption of injurious materials. It is stated in the Holy Quran that:

> "Remain with the Limits of God; forbid not the good things which Allah has made lawful and exceed not the Limits", "Eat the lawful and good things that Allah has given." (Holy Quran, 5:87; 5: 88).

The prohibition of any substance that has intoxicant effect was stated, though in a general terms, in the Prophet's traditions. It is narrated by Um-Salamah that:

> "Prophet ordered the abandonment of every intoxicant and mind altering materials." (Documented in Raiyan, 1984, p. 63).

Where the word "intoxicant" refers to all kind of alcoholic drinks, the word "sedative" has been explained by many Muslim scholars as encompassing the intake of any substance that leads to partial or complete deleterious effects on mental and intellectual faculties of the user of the substance. Another saying of the Prophet Mohammed states that the intake of any kind of intoxicant drugs is prohibited. Prophet Mohammed said:

> "All intoxicants are unlawful; and whatever a large quantity of a thing intoxicates, the small quantity of it is also prohibited." (Documented in Al-Sabagh, 1994, p. 12).

From the above *Hadeeth* (Prophet Saying), it is clear that hemp, hashish, opium, marijuana and other intoxicant drugs are judged to be equally forbidden. The Muslim scholar Jad Al-Huq has discussed the Islamic position on the use of all kinds of illicit drugs (see, Higher Committee for Islamic Affairs, 1983). Based on a review of various source of evidence (i.e., from Quranic texts, Prophet's Traditions, and scholars' opinions), Jad Al-Huq concludes that "Since the prohibition of intoxicants is based on a Quranic text and Traditions of the Prophet Mohammed, the consumption of all kinds of drugs whether they are naturally intoxicant or made to be intoxicant is forbidden. No matter how an intoxicant substance is consumed - whether it is eaten, drunken, sniffed, or injected." (Higher Committee for Islamic Affairs, 1983, Report no. 1289). Jad Al-Huq emphasises that, in Islam, no drug of any kind is to be cultivated, manufactured, traded, or made as a source of living. However, Jad Al-Huq states that most Muslim scholars agree on the legitimacy of use of drugs that have been especially manufactured for use in necessary medication.

Although the use and trade of almost all non-medical drugs are considered, nowadays, as illegal activities in most of the countries of the World, the use of alcohol is still an exception in non-Muslim countries; and in some Muslim countries whose civil and criminal laws are not based on Islamic legislation. In fact, such permissiveness with the use of alcohol is far less likely to be a result of any rational appraisal of the pharmacological properties of alcohol, or any dispassionate comparison of its relative dangers. Perhaps, this is because in Europe and North America, alcohol has long been part of culture. The book entitled '*Alcohol our favourite drug*', by the Royal College of Psychiatry (1988), discusses why attitudes to alcohol are very different from attitudes to other drugs in Western cultures.

> "The reason is quite simple. Alcohol is the chosen intoxicant of the European peoples as it has been in many other parts of the World. It has been part of our lives from the very beginnings of our civilization and it is woven inextricably into our culture. Over the years it has acquired innumerable different roles and functions. We drink at Christmas and New Year, at birthdays and anniversaries, at weddings, and funerals. ....We also drink to celebrate more personal triumphs, and to drown our sorrows too. We drink to help us relax, to mark the end of the working day, to prove that we are grown-up, to assert our virility, ... The list is almost endless.", " Because alcohol is our own chosen intoxicant, and perhaps also because many people's livelihoods and important economic interests are involved, we do our best to ignore its ill effects, the damage it inflicts on individuals, on families, and at times on the fabric of our society.", "Our attitudes to cannabis, cocaine, opium, and heroin are very different. These are alien drugs, imported from distant continents, and we are easily persuaded that they are dangerous." (Royal College of Psychiatry [London], 1986, p. 18).

Indeed, many societies recognise the serious problems (such as crimes, or health, behavioural, or economical problems) that relate to the use of intoxicant alcohol. Therefore, it seems that whenever there is permissiveness in laws concerning the use of alcohol, such permissiveness cannot be attributed to realistic confidence in controlling its danger.

(*b*) Crime

Both the Quran and *Sunnah* (the Prophet's sayings or deeds) constitute a comprehensive code of all that seeks to regulate the relationship of man to Allah, man to his fellow man, and man and himself. There are numerous Quranic verses, as well as *Hadeeths* that call upon believers not commit acts that would harm others, or humiliate them in any form, or cause damage or loss to their property (e.g., Holy Quran: 5: 38, 5: 45, 17: 33). Even harmful acts that may be committed against the self, are prohibited (e.g., Holy Quran: 5: 90).

The major transgressions, according to Islam, are murder, adultery, theft, highway robbery, and false accusation of adultery[1] (Alkhuli, 1982, p. 101). These transgressions, as judged in Islam, incur harm and devastating consequences to the individual and the society and create a state of disorder and insecurity. Therefore, fixed punishment or *Huddood*[2] for each of these crimes are stated in the Quran.

Murder

With regard to murder, Islamic law imposes the death penalty for intentional murder. Pardoning is possible if the closest relative of the murdered person will accept a compensation (this usually a fixed sum defined by the state). However, if murder is found to be unintentional, blood-money replaces the death sentence.

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[1] Since this type of crime is more applicable to adults than to juveniles, it will not be discussed here.

[2] The term of *Huddood* is an Arabic word used to denote fixed punishments that are stated in the Quran for a group of crimes (e.g., murder, adultery, and theft).

The following Quranic verse is directed to men to refrain from committing the crime of murder:

> "If a man kills a believer intentionally, his recompense is Hell, to abide therein (for ever); and the wrath and curse of God are upon him, and a dreadful penalty is prepared for him." (Holy Quran, 4:94).

Another verse:

> "Take not life, which God hath made sacred, except for just cause. And if any one is slain wrongfully, We have given his heir authority to demand retaliation (death penalty) or to forgive; but let him not exceed bounds in the matter of taking life for he is helped by [the law]." (Holy Quran, 17: 33).

Theft represents another serious crime that is specified in the Holy Quran. Islam legislates cutting the thief's hand off as the maximum punishment and under certain conditions. The judge decides on the seriousness of the case and decides whether the thief should get the maximum penalty or not according to certain conditions and restrictions.

Highway Robbery

Another crime that is specified in the Quran is highway robbery. This crime is assigned, in Islam, a sever punishment because it is seen as a destructive act that threatens the security of the society, endangers the lives of individuals, and incurs the loss of their property. The punishment of the highway robber may take one of these forms depending on the seriousness of the case. The robber may be put to death, crucified, or have his hand and leg cut off on opposite sides, or imprisoned.

Adultery*

The act of adultery falls in the category of major crimes in Islamic law. As stated in the Quran, if an act of adultery is witnessed by four persons, then the adulterer and the adulteress are to be flogged receiving one hundred lashes. If the adulterer or adulteress is married, the penalty is stoning, according to certain strict conditions. Islam culture reinforces the family system. Sexual relationships are, therefore, only permissible within marriage. It is stated by the Holy Quran that:

> "Nor come nigh to adultery: For it is an indecent (deed) and an evil way" (Holy Quran, 17:32)

The punishment for adultery is also stated:

> "The woman and the man guilty of fornication, flog each of them with a hundred stripes..." (Holy Quran, 24: 2).

Indeed, punishable offences are more than those already discussed. But these are considered as major offences because the Quran mentions them and specifies the

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* In Islamic law the word adultery or *zinna* is used to denote the commission of unlawful sexual intercourse (i.e., sexual intercourse between two persons not married to each other) regardless whether the persons involved are married or not.

punishment for them. Other crimes and offences are punishable according to what the judge sees in the light of the spirit and text of Islamic penal laws.

The act of homosexuality is also prohibited and assigned a severe penalty in Saudi culture. In contrast, in most Western cultures, homosexuality is largely a controversial issue. As stated by Feldman (1977, p. 182, 1993, p. 4), homosexual relations between consenting adults in private is no longer an offence in most Western countries. Feldman states that:

> "suicide, and attempted suicide, homosexual behaviour between consenting adults, adultery and prostitution have all been wholly or partially removed from the criminal law, as have gambling ...and abortion" (Feldman, 1993, p. 4).

After the second World War, the law related to homosexual acts in most Western countries have gradually changed in favour of legalising 'private' homosexuality. For example the Sexual Offences Act of 1956 for England and Wales, section 12 made it a felony for a person to commit buggery with another person, or with an animal. Section 13, made it a felony for a person to commit an act of gross indecency with another man in public or in private" (Sexual Offences Act 1956; see, Fairbairn, 1974, p. 161). This Act was then changed in 1967 as follows: "...a homosexual act in private will not be an offence provided the parties consent thereto and have attained the age of 21 years." (Sexual Offences Act 1967; see, Fairbairn, 1974, p. 162). In recent years, homosexual groups continued to campaign for eliminating forms of discrimination against them. In 1994, there was a considerable debate in Britain as to the reduction of age of consent from 21 to 16 but the final decision specified the age of 18 years as the minimum age of consent (*the* Journal, 1994, issue No. 45876, Vol., pp. 1, 5).

In contrast, homosexuality in the Saudi culture is a sinful act. The Prophet said "If a man commits an act of sex with a man, they both are adulterers, and if a woman commits such acts with a woman, then both of them are adulteresses" (documented in Doi, 1984, p. 242). While such type of behaviour is condemned in the Islamic-oriented Saudi culture, such behaviour does not appear to be strongly contrary to Western (or Western-oriented) cultures.

The Offender and Criminal Responsibility

Punishment of the offender, according to Islamic law, may not be implemented for certain reasons relating to the age and mental condition of the offender. The Prophet said: "Three types of offenders are not to be punished: the child before reaching puberty, the sleeper until he wakes up, and the insane until he is recovered" (Documented in Madkour, 1980, p. 105).

It is emphasised, in this context, that punishment applies to the offender who is sensible and able to exercise his own free will. However, this type of legislative policy does not mean that appropriate measures should not be adopted to protect the society against the dangers of crimes committed by criminally irresponsible offenders (see, Behnasi, 1983; Hasanein, 1982). Regarding legal responsibility and age of the offender, Islamic legislation distinguishes between three different levels. First, individuals who are characterised by lack of sensibility are classified as legally irresponsible individuals. This includes the child under the age of seven. Second, individuals with weak sensibility, are only partially responsible. This includes the child over the age of seven until he reaches puberty. At this level the child is not held legally responsible, but he may receive disciplinary punishment. The third level refers to individuals who have reached the maturity stage. This includes individuals over the age of eighteen. The offender at this stage is fully responsible for his own offences (see, Behnasi, 1983, pp. 212-219).

Objectives of Punishment

Punishment in Islam is seen as a mercy for those who have diverted from the prescribed codes of conduct (Majdoub, 1987, p. 204; Madkour, 1980). Penalty was, therefore, decreed not only to punish the offender but also to restrain others from committing offences. Punishment in Islamic law also aims at purifying the offender and expiating his sins to save him from punishment in the Hereafter (Majdoub, 1987). Al-Bokhari said: "Punishment prescribed by Allah is an expiation for those who are punished" (Documented by Matrak, 1980, p. 422).

To summarise, although there are a wide variety of deviant behavioural patterns that are commonly recognised by most societies, different societies, through their own normative system, impose certain codes in dealing with such deviancy. As was discussed in Chapter 2, guilt-proneness constitutes a generalised response that is developed largely through an individual's past learning history. This leads to the fact that the *content* of what is being reinforced in a particular culture differs from what is being reinforced in another.

Regarding illicit-drug use and crime, Saudi culture reinforces a normative system that is, primarily, based on the Islamic teachings. Because of the greater religious and cultural uniformity of Saudi Arabia, it is a more promising place in which to carry out research on the function of guilt-proneness in relation to deviation from internalised standards of acceptable behaviour. The present research examines the function of guilt-proneness in relation to involvement in illicit-drug taking and criminal offending behaviour.

Chapter Five

The Problem of Juvenile Offending and Illicit Drug Use in Saudi Arabia

This Chapter provides some account of the current nature and size of the juvenile criminal offending and illicit-drug use problems, as forms of deviation from the normative system of Saudi society. An outline of official statistics relating to illicit drug use and crime is presented. Relevant laws and existing rehabilitation facilities are also discussed in this chapter.

Background

Perhaps the most noticeable phase of social change and rapid movement towards modernisation in societies in general, and in the Saudi society in particular, is the emergence of a wide variety of new behavioural patterns, attitudes, and values.

Indeed, Saudi Arabia, like other Arabian Gulf countries (i.e., Kuwait, Qater, Bahrain, United Arab Emirates), has had a remarkable economical growth. This change in economy has taken place, mainly, as a result of the discovery of oil in the region since the early 1940's. The rapid economic growth has brought about various changes in the social structure and life style. Changes in ways of child rearing, has consequently occurred, not only within the family's authority but also among other social agents that are involved in the process of child rearing. However, the rise in economy and social welfare has encountered some difficulties. First, a major factor that relates to economic growth, has been the need for a massive number of foreign workers (Al-Farsy, 1986). For example, the

Second Five Year Plan (1975-1980) projected a sharp increase in recruited foreign manpower. The proposed increase in the number of the non-Saudi work force was from 314000 to 812000 (Al-Farsy, 1986). Al-Farsy (1986) has expressed some concern over the possible negative impact of the increase in the foreign labour force in Saudi Arabia:

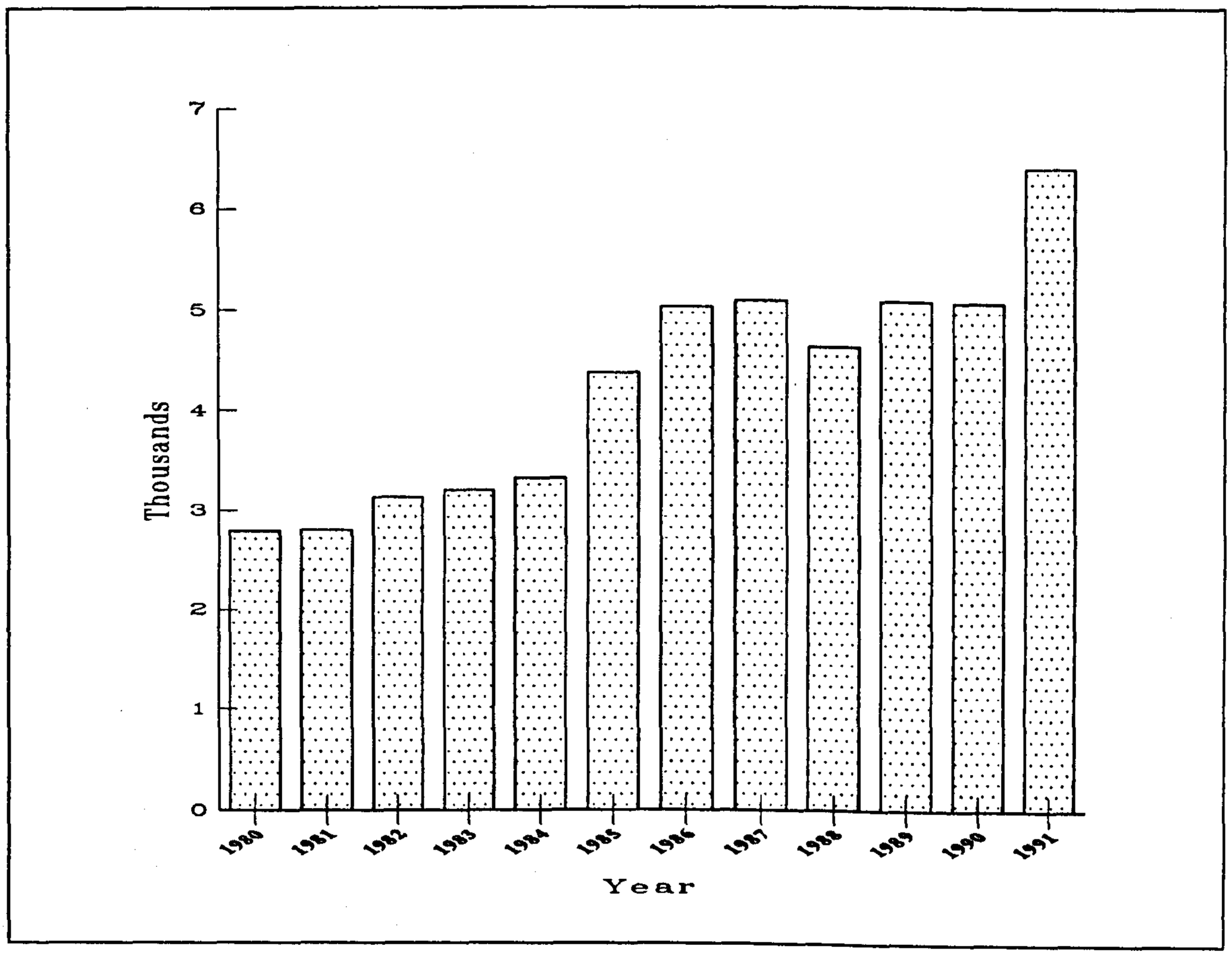
> "The most crucial problem arising from this massive need for foreign manpower, was the social impact which such an alien labor force might have on the country. Too many foreigners with their own alien customs and way of life could have disturbed the existing unique Islamic social pattern of the Kingdom." (Al-Farsy, 1986, p.92).

Second, economic welfare has opened the opportunity for young people to travel outside the kingdom and, hence, to be exposed to cultures that differ to a great extent from their own.

In viewing the negative impact of such factors, Zaghel (1987) has discussed a number of possible consequences, which include: weakening in religious commitments, weakness in social relations, possible generation-oriented cultural conflict, and gradual loss of identity and self-control. Taking such consequences into account, the above mentioned factors may said to be instrumental in facilitating a degree of disconformity and rebelliousness' against internalised norms and codes of conduct. In the case of Saudi Arabia, this may account for much of the emergence of forms of juvenile deviancy such as illicit drug use and criminal offending.

Official statistics relating to the use of alcohol and other drugs in Saudi Arabia, recorded between 1980 and 1991 are displayed in Figure 1, Figure 2, Table 1 and Table 2. Figure 3 and Table 3 show official statistics relating to the number of juvenile offenders in major Saudi cities between 1972 and 1990.

FIGURE 1 Number of Convicted alcohol drinkers in Saudi Arabia between 1980 and 1991.*



*Source: Ministry of Interior (Saudi Arabia), 1991

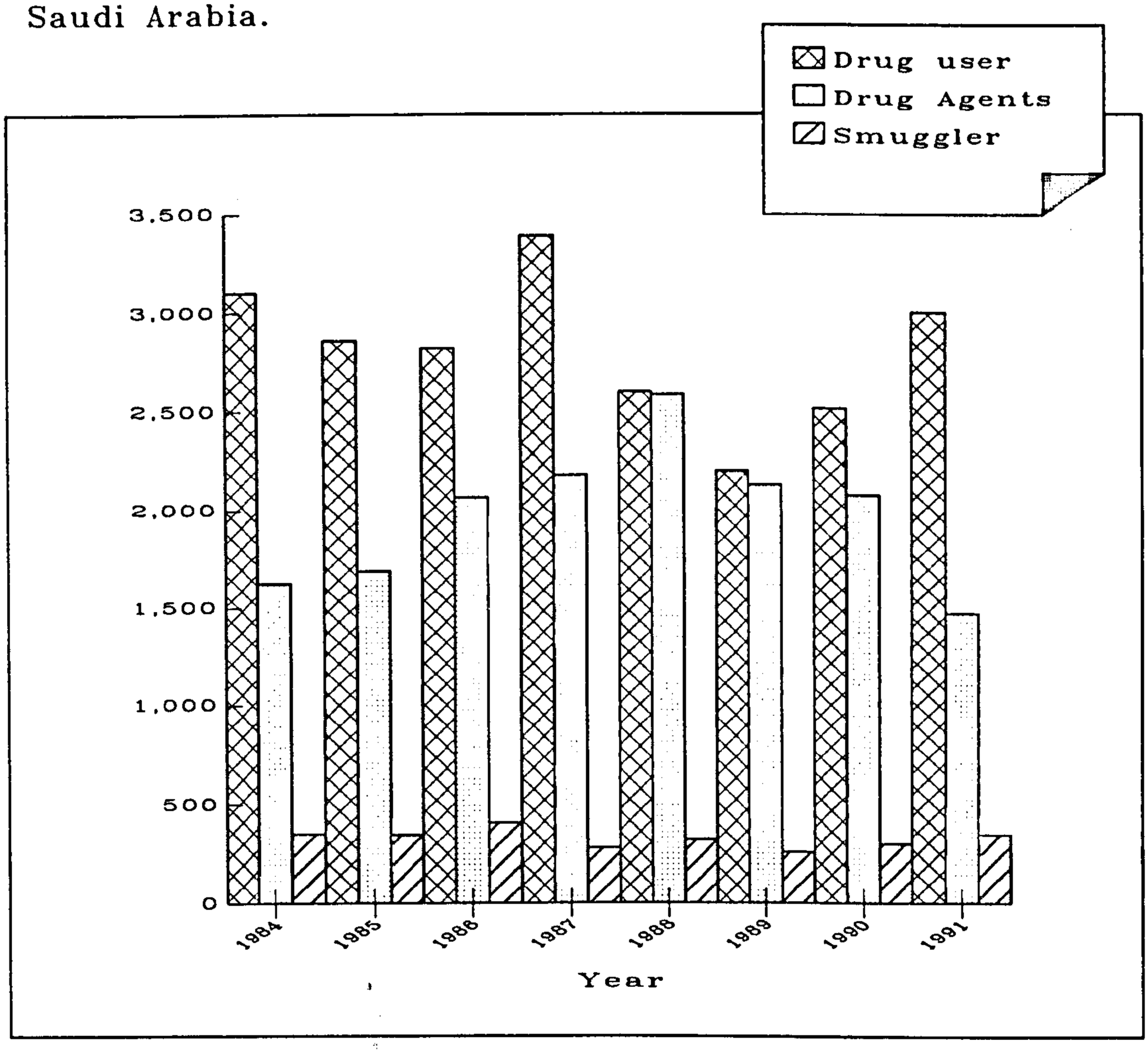
Table 1

Number of convicted alcohol users between 1980 and 1991, along with percentage of conviction to total number of recorded crimes in each year.

(*Source:* Ministry of Interior, Statistical Yearbook, 1984-1991)

Year	No. of Conviction	per cent to total crimes
1980	2797	24.2%
1981	2808	23%
1982	3136	22%
1983	3203	20%
1984	3319	20%
1985	4371	23%
1986	5026	23%
1987	5085	23%
1988	4627	22%
1989	5076	22%
1990	5063	22%
1991	6401	27%

FIGURE 2 Number of Users of illegal drugs, agents, and smugglers officially recorded between 1984 and 1991 in Saudi Arabia.



Source: Ministry of Interior (1991). Riyadh.

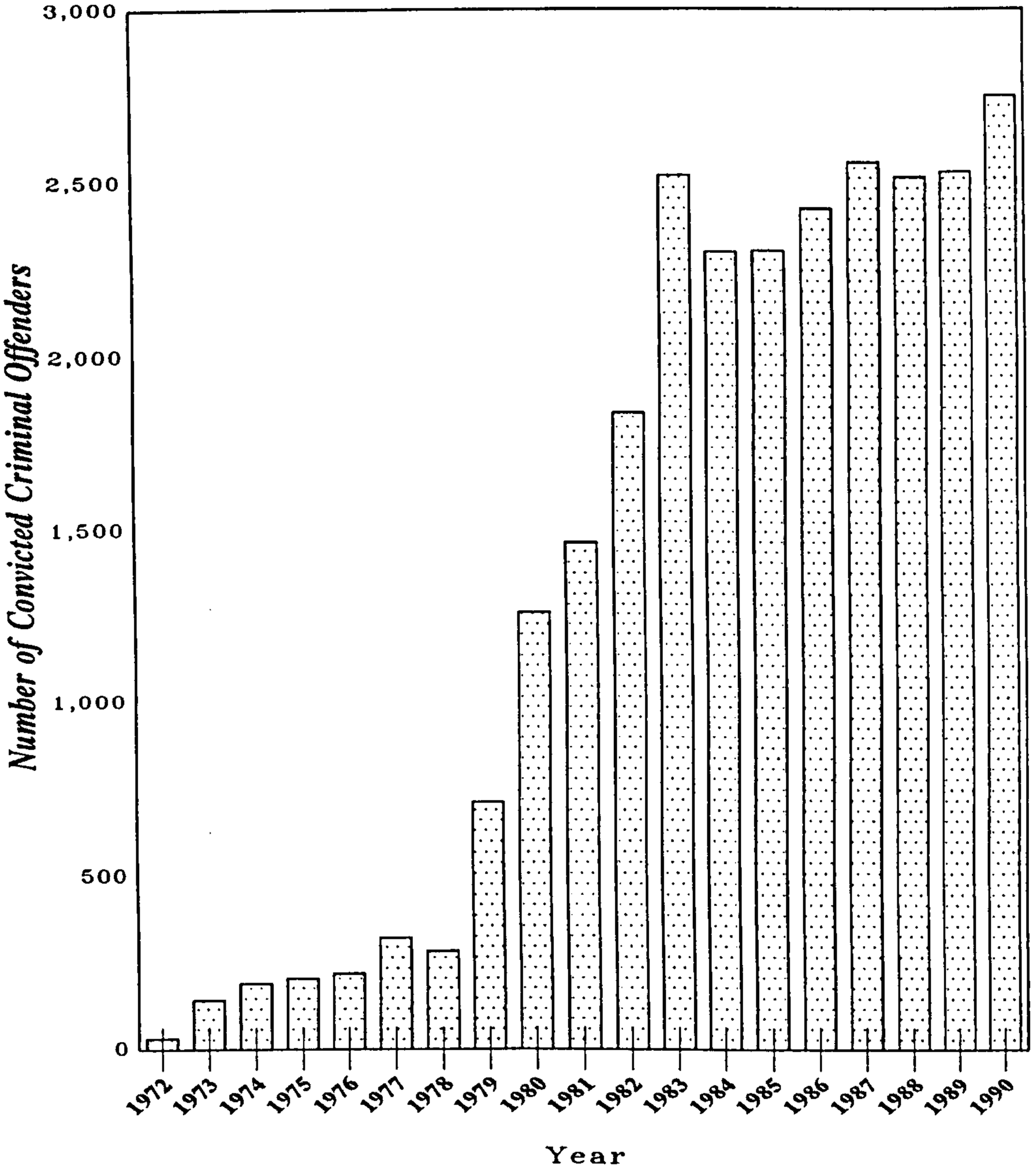
Table 2

Number of convicted drug users, agents and smugglers between 1984 and 1991.

(*Source:* Ministry of Interior, Statistical Yearbook, 1984-1991).

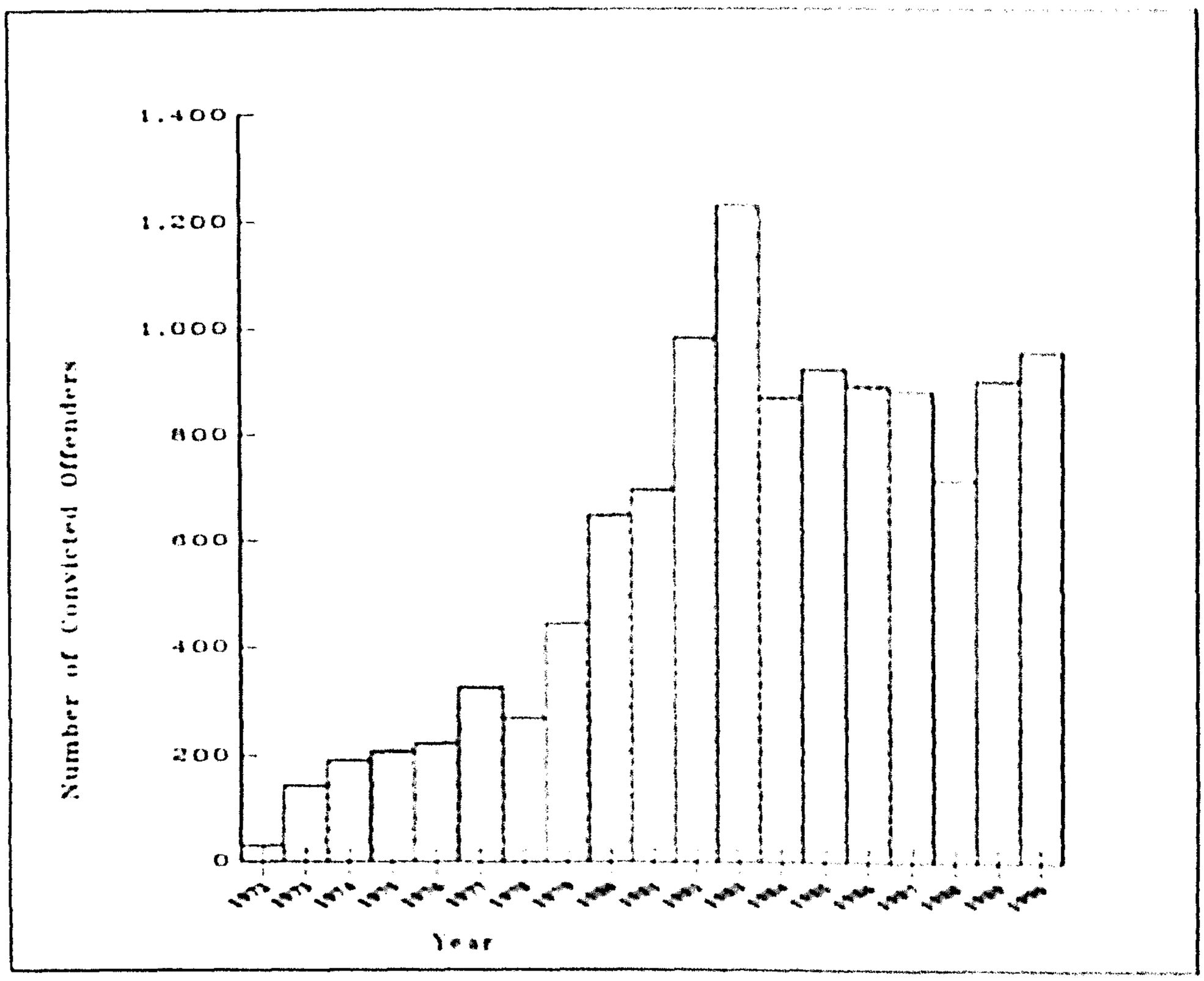
Year	Users	Agents	Smugglers
1984	3104	1627	351
1985	2860	1690	346
1986	2818	2065	405
1987	3389	2180	278
1988	2596	2583	319
1989	2199	2127	257
1990	2513	2075	299
1991	2996	1473	344

<u>FIGURE</u> 3 Convicted young criminal offenders in Saudi Arabia between 1972 and 1990*.



<u>Source</u>: Ministry of Labour and Social Affairs, 1991).

FIGURE 4 Number of Young Offenders officially recorded in the Riyadh area between 1972 and 1990.*



*Source: Ministry of Labour and Social Affairs (Saudi Arabia), 1991

Table 3

Number of convicted young criminal offenders in Saudi Arabia recorded between 1972 and 1990*.

(Source: Ministry of Labour and Social Affairs, 1991).

Year	Riyadh	Damam	Jeddah	Qaseem	Tabuk	Abha	Total
1972	31	-	-	-	-	-	31
1973	143	-	-	-	-	-	143
1974	191	-	-	-	-	-	191
1975	207	-	-	-	-	-	207
1976	221	-	-	-	-	-	221
1977	324	-	-	-	-	-	324
1978	267	18	-	-	-	-	285
1979	442	182	85		-	-	709
1980	647	231	179	202	-	-	1259
1981	696	270	174	319	-	-	1459
1982	980	293	192	370	-	-	1835
1983	1227	434	254	602	-	-	2517
1984	867	488	286	653	-	-	2294
1985	920	558	311	509	-	-	2298
1986	889	554	280	452	58	187	2420
1987	879	468	357	484	74	295	2557
1988	715	355	333	695	111	305	2514
1989	899	305	424	406	136	360	2530
1990	956	379	441	434	122	417	2749
Total	115 01	4535	3316	5126	501	1564	26543
%	43.3%	17.1%	12.5%	19.3%	1.9%	5.9%	100%

*The mark (-) indicates that a Social Observation Centre for the corresponding city had not been established yet, and therefore no official data was available.

Drug Abuse and the Saudi Legal System

As Islamic law (*shariah*) is the source of legislation in Saudi Arabia, there have been several Acts introduced regarding the consumption and trade of non-medical drugs. The development of drug laws in Saudi Arabia will be summarised here. In 1954 previous laws concerning the use and trade of drugs were modified. The new Act introduced in 1954 (Act No. 11, on: 1 / 2 / 1374. H.G [1954) states that:

1. Anyone who is convicted, by the court, of smuggling illegal drugs into the Kingdom, will be liable to the following punishment: (a) fifteen years of imprisonment. (b) confiscation and destruction of smuggled objects. (c) a fine of SR20000 (about $5333). (Ministry of Interior, documented in *Majoun*, 1991).

In addition to the above, the convicted smuggler who is of a Saudi citizenship will also prevented from travelling outside the Kingdom. Non-Saudi smugglers are deported and disqualified from re-entry. Photographs and personal details of convicted smugglers are kept in police records and passed on to the country's ports and commissions (*Majoun*, 1991).

2. Anyone who is convicted of participating in/or facilitating illegal-drugs trafficking to the Kingdom shall be liable to the following punishment: (a) seven years of imprisonment. (b) discharge from official employment (if applicable). (Ministry of Interior, documented in *Majoun*, 1991).

3. Any party, except those holding valid licences for buying and selling drugs, shall be liable to five years of imprisonment and a fine of SR10000. (Ministry of Interior, documented in *Majoun*, 1991).

4. Anyone who is convicted of the use of illegal drugs, shall be subject to the following: (a) two years imprisonment. (b) appropriate additional punishment imposed by the Judge (according to what the judge sees in the light of the spirit and text of Islamic penal laws) (c) After applying (a) and (b), convicted non-Saudi illegal drug users are to be deported from the country. (Ministry of Interior, documented in *Majoun*, 1991).

In 1971 a Royal edict (No. 3017, on 16 / 4/ 1391 H.G. [1971]) was issued ordering the inclusion of *gatt* in the list of illegal drugs. In 1987 the Government was concerned about the growing danger of the use and trade of illegal drugs in the Kingdom and was concerned about the impact, already happening, of drugs in ruining and destroying the lives of youths, inflecting long-term distress to their families and hence the whole society.

The *Ulama* Committee (Religious Scholars Committee) debated issuing an Act based on Islamic guidance, in an effort to put an end to the potential tragedy, and to send a clear warning to those who attempt illegal drug trade. A Royal edict (No. 4 / B / 9666, on 10 / 7 / 1407 H.G. [1987]) has announce the endorsement of a new Act (No. 138 on 5 / 6 / 1407 H.G. [1987]), issued by the *Ulama* Committee, advising both the Ministry of Justice and Ministry of Interior to put this Act into effect. The new Act states that:

1. Since drug trafficking into the country causes a great corruption, threatens the health of the whole nation and even to the drug trafficker themselves, death penalty shall be assigned to the drug trafficker. This punishment also applies to the person who imports or receives drugs to supply them to canvassers. (Ministry of Interior, documented in *Majoun*, 1991).

2. Regarding the drug canvasser, the 1981 Act (No. 85, 11 / 11 / 1401G. [1981]) states that: the first-time canvasser shall receive discretionary punishment (*Ta'zer*) through an appropriate period of imprisonment or flogging or a fine or by all of these according to what the judge sees appropriate. If the canvasser is convicted for a second time, he will be subjected to discretionary punishment that prevents his activity, if necessary by death penalty (Ministry of Interior, documented in *Majoun*, 1991).

Drug Rehabilitation Facilities

As a response to the need for preventive and therapeutic measures to combat illegal drug use in Saudi Arabia, the government has established three hospitals which specialise the treatment and rehabilitation of alcohol and drug addicts. These hospitals were established in three principle cities: Riyadh, Damam, and Jeddah. The first of these hospitals, the al-Amal Hospital, was founded in the city of Riyadh in 1987. This hospital offers treatment and rehabilitative programmes to those individuals who have become drug addicts. One special policy of this hospital, is that drug-dependence patients are dealt with in strict confidence regardless whether they are voluntary patients or are brought to the hospital by the authorities (Ministry of Health, 1990, p. 13).

Institutionalisation of Young Offenders in Saudi Arabia

Due to the need for appropriate disciplinary and rehabilitation programmes for juvenile criminals, the government has initiated the establishment of a number of juvenile observation centres in the country.

The history of juvenile offender institutions in Saudi Arabia is dated back to 1972 where the first juvenile centre was established in the city of Riyadh. Before that date, juvenile offenders used to be sent to adult prisons. However, a set of regulations were introduced in 1969 to ensure that convicted juvenile offenders were kept separate from adult prisoners. The regulations also abolished imprisonment of juvenile offenders under the age of eighteen (Ministry of Labour and Social Affairs, 1990). The first institution for juvenile offenders in Saudi Arabia was established in Riyadh in 1972. It was intended to offer both disciplinary and correctional programmes for juvenile boys who commit illegal acts, or run-away from homes, and those who are vulnerable to deviance and need immediate care and supervision.

Detention Procedure

The government realised that the use of adult prisons would be counterproductive and inappropriate for juvenile offenders. Therefore, a revision to the situation was made. The government had planned to establish a number of juvenile social observation centres cross the country. These centres were aimed also to run correctional programmes for convicted young offenders under the age of eighteen. The juvenile observation centre has, thus, become the official body that is responsible for handling the process of trial and sentencing (through the Juvenile Court), and exercising appropriate punishment and offering a comprehensive

rehabilitation facilities. This usually includes education and training for a wide variety of occupational skills (Ministry of Labour & Social Affairs, 1990).

The first of these centres was established in the city of the city of Riyadh in October, 10, 1972. In 1978 a second centre was established in Damam; and in 1979 a centre was established in Jeddah. After that, several social observation centres were established in a number of cities including: Qasseem (1980), Tabok (1985), and Al-Madinah Al-Monawarh (1986).

The rules which regulate the handling of juvenile offenders by the social observation centre indicate that: upon the arrest of the offender (usually by the police), they must be handed immediately to the centre. The arrested offender is then detained in the centre and is presented for trial at the Juvenile Court (Ministry of Labour & Social Affairs, 1990, p. 22, 23).

According to the current rules governing juvenile rehabilitation in Saudi Arabia, juvenile offenders are tried by juvenile courts. The purpose of the Juvenile Court is to remove the adversarial nature of adult proceedings and to place greater emphasis on protection and care the juvenile (Ministry of Labour & Social Affairs, 1991, p. 20, 21).

Concluding statement

Despite the fact that the problem of crime and drug abuse among Saudi juveniles is becoming increasingly frightening, attempts at conducting empirically-based psychological studies on this problem are very rare. Indeed, as indicated by Al-Douri (1985, pp. 11-12), Torki (1990, p. 9), this lack of empirical research into the problem of crime and drug abuse is observed not only in Saudi Arabia, but also in most Arab countries.

As was discussed in Chapter three studies, mainly in Western cultures, which have been concerned with the investigation of guilt-proneness in criminal offender and illicit-drug-abuser groups have demonstrated the critical role of guilt-proneness in influencing cognitive processes with regard to involvement in anti-social acts. Therapy-oriented research dealing with guilt in drug abusers and offenders has also demonstrate the role of guilt-proneness as a psychological mechanism with a substantial significance.

While there is a growing interest, in the Western world, in exploring the powerful effect of guilt-proneness on inhibiting the occurrence of various patterns of deviant behaviour, on the one hand (e.g., Fehr, 1988; Gudjonsson & Singh, 1989; Mosher, 1968; Mosher & Mosher, 1967; Persons, 1970a; Ruma & Mosher 1967; Schill & Althoff, 1975; Ungerer *et al.,* 1976), and in exploring the value of guilt-proneness in psychotherapeutic intervention with illicit drug addicts and criminals, on the other (e.g., Cromer, 1981; Czunder, 1985; Czunder & Mueller, 1987; P. Potter-Efron, 1990; R. Potter-Efron, 1988), no study has yet attempted an exploration of guilt-proneness in relation to crime and drug abuse in the Saudi culture.

Therefore, it is the aim of the present research to develop an appropriate methodology for the assessment of guilt-proneness and then to explore the individual differences in guilt between the young Saudi Arabian male illicit drug users, offenders, and normals (more detail on the research hypotheses are given in the "Hypotheses section", Chapter 12).

The present study will be based on the data of young male population. This is, in part, because the present research project focuses, mainly, on illicit drug use and criminal offending behaviour in the Saudi society where a very low percentage of female offenders or illicit drug users exists. In fact, crime rate for females between 1980 and 1992 represents an average of only 7% of total crimes committed; and of the total number of recorded crimes committed by females, only 3.5 % are related to illicit drugs use (Ministry of Interior, Statistical Reports, 1994). In addition, the country's traditions as well as formal procedures do not generally permit female testing (unless by an appropriate female person).

At a later stage of this research, an idiographic approach based on personal construct theory (Kelly, 1955, 1965) is utilised in an effort to provide diagnostic examples of the use of the guilt-proneness measure developed in the present study, with a number of individual clinical cases.

Chapter Six

STAGE ONE: THE DEVELOPMENT OF THE GPS

(1) Scale Construction

Having considered the need for developing a new guilt-proneness scale, it was decided to develop a measure of guilt-proneness that is reliable, quantitatively scorable instrument suited for use in the Saudi culture.

As was discussed in the second Chapter, Mosher (1966, 1968, 1979, 1980, 1985) defines guilt as "a generalised expectancy for self-mediated punishment for violating or anticipating the violation of internalized standards of socially acceptable behavior" (Mosher, 1965, p. 162). In constructing a guilt scale, I have adopted Mosher's definition of guilt-proneness with some reservations. Firstly, it must be clarified that the term "standards of proper behaviour" is used to denote *what* is recognised as acceptable by individuals of a specific culture. In the case of present study, the term "standards of proper behaviour" is referred to as being the social and religious standards that are recognised by the majority of Saudi Arabian individuals.

Secondly, since guilt experience, generally, varies as a result of social and religious standards from culture to culture (see, e.g., Abramson & Imai-Marquez, 1982; Izard, 1977; Marsella, 1980), the different aspects of guilt found by Mosher (in the American culture) are not automatically expected to emerge in the Saudi culture.

The first stage, in developing the new guilt-proneness scale, involved the generation of a large number of questionnaire items (95 items). The scale items were constructed around a wide variety of situation (stimulus) that are often found to evoke a response of guilt feelings. These *guilt-evoking* situations were adopted from the general theme, but not the specific content, of guilt-related situations that are: (*a*) discussed by Mosher (1965, 1966, 1980), such as immoral acts, aggressive and hostile behaviour, transgression to social norms, and irresponsible and impulsive acts, and failure, or (*b*) guilt-related situations that are discussed by other psychologists, who share with Mosher the view that guilt results from violating or anticipating the violation of internalised standards (e.g., Izard, 1977; Evans, Jessup & Hearn, 1975; Hoffman, 1982; Kugler, 1992; Zahn-Waxler, 1990). This includes situations that involve violation of religious obligations and various forms of violation that occur in the context of interpersonal relationship.

Items were constructed in a manner so as to sample guilt evoking situations that are relevant to religious, social and moral standards that are applicable to the Saudi culture. The new guilt-proneness scale produced in the present research is a paper-and-pencil self-report inventory. As in the Mosher Guilt Scale, each statement in the inventory is rated on a six-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). A copy of the refined version of the GPS as well as its scoring manual are found in *Appendix* **A.**

As in Mosher's guilt scale, each item in the new guilt scale (GPS) contains a guilt evoking situation (stimulus). However, in the GPS these situations were carefully selected to be representative of accepted social and religious norms in the Saudi

culture. The following two principles were utilised in writing the items of the Guilt Scale (GPS):

1. The behaviours and attitudes involved should be specific and the stimulus situations that arouse them should be near universal in the relevant population.
2. The item should be worded so as to minimise defensiveness in responding.
3. In keeping with Mosher's approach to guilt as a personality predisposition, items should relate to how an individual normally reacts rather than how an individual currently feels.

(2) Pilot Study

Although an effort was made to ensure that the GPS is designed in a simple and easy-to-use format, a pilot study was conducted with a small group of subjects to check for comprehension of items and to estimate time required for filling-in the questionnaire.

The pilot study involved the administration of the 95-item GPS format to a group of 32 subjects. These subjects were pupils at the Al-Jazeerah Junior High School in Riyadh. Their age ranged from 16 to 19 years.

The results of the pilot study did not suggest major alterations in the GPS original format. Three items had to be rephrased. The average time required to complete the GPS was 25 minutes.

(3) Investigating Face Validity of the GPS

Procedure

A questionnaire was designed in a way so as to include the GPS items as well as some items from two different personality tests: Depression Scale (the Arabic version of the MMPI *D* scale, Al-Hajj, 1981) and the Manifest Anxiety scale (the Arabic version of the Manifest Anxiety scale, Malik, 1986). The GPS items were mixed with the depression and anxiety items and arranged in a single questionnaire. The resulting questionnaire consisted of 160 items. Corresponding to each item, names of three personality constructs: anxiety, depression, and guilt were written. Five independent raters from the Psychology Department of King Saud University were asked to identify the trait that best indicative of that item. Only one trait is to be selected at a time. Photocopies of the questionnaire were distributed to the raters via internal mail and were returned to the departmental secretary of Psychology Department of King Saud University.

Results of Face Validity Study

Sixty of the initial GPS items were identified by all five of the raters as being indicative of guilt. This 60-item GPS format was used as the basis for subsequent analyses. Although this result indicates an important step in developing the GPS, this process would only be regarded as *face validity*. Indeed, a number of psychometricians (e.g., Cohen, Swerdlik, & Smith, 1992, pp. 160-161; Nunnally, 1970, p. 149; Nunnally & Bernstein, 1994, p. 110) point out that face validity of a test would remain, in most instances, inadequate, unless it is used in conjunction with other method of test validation. Therefore, a more formal methods for evaluating the validity of the GPS will be presented in a following chapter.

Chapter Seven

Psychometric Analysis Of The GPS

This Chapter is concerned with the analyses of data, derived by the subjects' responses to the new Guilt-Proneness Scale (GPS). The purpose of this stage of analysis was: firstly, to examine the reliability and validity of the new guilt instrument offered in the present study; secondly, to investigate the dimensionality of the guilt construct, using a factor analysis approach, in a sample of Saudi subjects.

Exploratory Item-Factor Analysis of the GPS

Background

While several statistical techniques can be employed (separately or jointly) in the process of investigating the adequacy of a test under development, factor analysis is recognised as having advantages over other available techniques. Perhaps, the most distinctive feature of factor analysis is its data-reduction capability. That is to say, it can disentangle complex interrelationships among the phenomena in question, into functional unities or separate or independent patterns of behaviour. Given the array of correlation coefficients for a set of variables, factor analytic techniques enable us to see whether some underlying pattern of relationships exists such that the data may be "rearranged" or "reduced" to a smaller set of factors or

components that may be taken as source variables accounting for the observed interrelations in the data.

Factor analytic technique has been extensively used by personality psychologists in searching for personality factors (e.g., Cattell, 1973), personality types (e.g., Eysenck, 1964, 1975) or identifying the components of mental abilities (Thurstone & Thurstone, 1941).

However, more recent efforts have tended to be less comprehensive and more intensive. Along with the growing dissatisfaction with existing broad personality 'taxonomy' there appears to be an increasing concern with the study of variables selected for their general significance and heuristic potential rather than for their systematic usage within a larger domain of related variables.

Intensive studies of single dimensions of individual differences, utilising factor analytic techniques, characterise the current mode of approach, and the worth of variables seems to be determined equally by the availability of appropriate measuring techniques and their intrinsic significance for the understanding of human behaviour.

This technique has also been employed in the development of a wide variety of standard instruments measuring individual personality characteristics; such as Sensation Seeking (Zuckerman, 1971), Manifest Anxiety (Taylor, 1953), Boredom Proneness (Farmer & Sundberg, 1986).

Nunnally (1970) has stressed the importance of this technique in providing criteria for adequate test construction. He writes:

"Factor analysis plays important parts with respect to all three types of validity, but it plays somewhat different parts with each. Regarding predictive validity, factor analysis is important mainly in suggesting predictions that will work well in practice. With content validity, factor analysis is important mainly in suggesting ways to revise instruments for the better. With construct validity, factor analysis provides some of the tools that are most useful for determining internal structures and cross-structures for sets of variables." (Nunnally, 1970, p. 151).

According to a number of factor analysts and psychometricians, e.g., Gorsuch (1988), Joreskog and Lawley (1968), Mulaik (1988), Nunnally and Bernstein, (1994), the most common applications of factor analysis, can be classified into two categories:

(a) exploratory uses - the exploration and detection of patterning of variables with a view to the discovery of new concepts and a possible reduction of data; (b) confirmatory uses - the testing of hypotheses about the structure of variables in terms of the expected number of significant factors and factor loadings.

For the purpose of the present study, an exploratory factor analytic approach was utilised for examining the psychometric properties of the GPS.

Subjects

The psychometric investigation of the GPS presented in this section of the thesis has been based on the data of two subject groups. The first group was 108 male first year university students. They ranged in age from 18 to 24 years (Mean = 21.18; SD = 2.44). All subjects in this group were full-time students and were enrolled in various kinds of courses at King Saud University in the city of Riyadh. King Saud University was selected as a source of participants because it is currently the largest academic establishment in Saudi Arabia (it accommodates now about 35% of university students in the country). Therefore, it was decided to arrange for a subject group from this university because of the likelihood that students of this university were representing a variety of socio-economic levels.

Table 4 presents information on the subjects' academic fields.

Table 4

Distribution of Subjects by course of study - first year university students.

Subject Area	No. of Ss.	%
Science	33	30.55%
Engineering	17	15.74%
Arts and Social Sciences	38	35.18%
Islamic studies	11	10.18%
Medicine	9	8.33%
Total	108	100%

The second group was 122 male junior high school students. They ranged in age from 16 to 19 years (Mean = 17.44; SD = 1.2). These subjects were enrolled in full-time education at the Al-Jazeerah Junior High School in the city of Riyadh. At the time of collecting the data of the present study, the Al-Jazeerah High School was running a summer course for pupils from all over Riyadh areas. This school was, therefore, chosen because of the very high likelihood that pupils taking the summer course, were representing different levels of socio-economic status.

Procedure

To collect data from subjects, it was necessary to make official arrangements, in advance, with the relevant authority at both the Al-Jazeerah High School and King Saud University in the city of Riyadh.

For all subjects in the two groups, testing was voluntary and the subjects could choose not to participate. Subjects were reassured that all information gathered through the scale form would only be used for academic research. Subjects were also informed that no personal names would be used in reporting research results. Rather, subjects would be identified by numeric codes (i.e., Subject 1, Subject 2 ...etc.).

Subjects at the Al-Jazeerah Junior High School were tested, by the present investigator, in class rooms in small groups (20 Ss. approx.). For subjects at King Saud University testing was conducted by the present investigator with the help of two research assistants from the Psychology Department of King Saud University. The testing of these subjects was done in small groups of about 25 Ss., in lecture rooms.

Each subject, in the two groups, was given a test pack containing the Guilt-Proneness Scale (GPS), other related measures including: the Mosher Guilt scales (Mosher, 1985), Perceived Guilt Index (Otterbacher & Munze, 1973), Buss-Durkee guilt scale (Buss & Durkee, 1957) and a pencil. The average time that was needed to complete the test pack was 30 minutes. The data collected from the two groups mentioned above were utilised mainly for the process of constructing the new guilt-proneness scale (GPS) presented in the current study.

Data Analysis and Results Related to the Guilt-Proneness Scale (GPS)

The data were entered into the computer using the NIMLOG data entering program (Downing, 1989) The statistical analysis was carried out utilising the Statistical Package for the Social Sciences (SPSS, Inc., 1990). In this stage of analysis, data related to the GPS from 214 subjects (first year university students and junior high school pupils) were analysed in the following way: First of all, it was decided that if the statistical tests indicated that the university students' data and the data obtained from the junior high school pupils did not differ statistically, the data from the two groups would be combined to form a single group. Man-Whitney U test was used in this analysis. The results demonstrated that there were no statistically significant differences between the two groups (U =5247.5, W = 10197.5, p = 0.32). Since no statistically significant difference was observed for the two groups on the GPS, the data of the two groups on the GPS were combined and subsequently used for the analysis (N = 214).

(1) Results of Factor Analysis of the GPS

For the purpose of investigating the psychometric properties of the GPS, an exploratory item-factor analytic approach was utilised. Item factor analysis, using *Principal Axis* extraction, was performed on the 60 X 60 correlation matrix (*Appendix* N.1). In the first instance, 21 factors with eigenvalues greater than one were revealed accounting for 65.1% of the total variance. However, the Scree Test (Cattell, 1966) showed that 3 factors should be extracted for interpretation (see, Figure 5). The analysis then was restricted to a three factor solution. Unrotated factor loadings of the GPS scale are displayed in Table 5.

FIGURE 5 Scree Test based on Principal Axis Factor Analysis of the GPS. N = 214

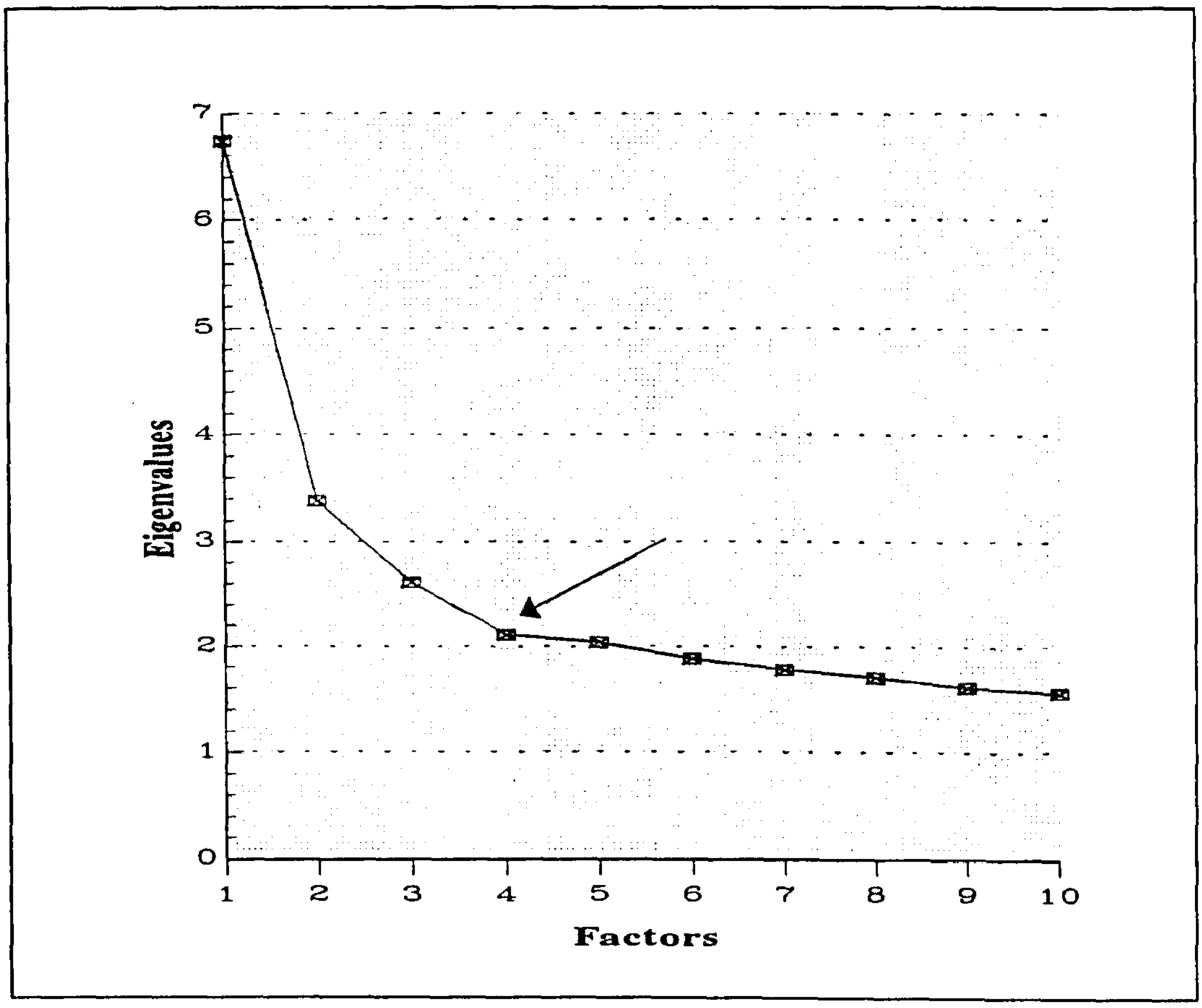


Table 5

Unrotated factor loadings of the **GPS** items derived by the Principal Axis Factor Analysis method ($N = 214$)

Item No.	Factor I	Factor II	Factor III	h^2
1	-.10167	.19409	-.02700	.30122
2	.06890	.12902	-.05248	.35573
3	-.01829	.42385	.04386	.46597
4	.04326	.38457	.08209	.39219
5	.24152	-.01657	.26828	.35912
6	.03000	.20848	.01709	.38504
7	.29772	.31100	.15862	.44697
8	.16775	.01938	-.00084	.28721
9	.12077	-.14747	-.07798	.27930
10	.17127	.40339	-.13154	.41072
11	.28394	.11335	.04186	.42559
12	.22207	-.02854	-.28478	.33030
13	.06844	.01019	.36740	.34440
14	.08689	.37501	-.10000	.34112
15	.20368	.39040	-.15892	.38684
16	.18610	.05779	.08007	.39154
17	.29217	-.05679	.04136	.37216
18	.37011	-.27245	-.24710	.52887
19	.48064	.15732	.10986	.47109
20	.15535	.29616	-.13357	.31143
21	.07650	-.26623	.08943	.41628
22	.20451	.38891	-.14901	.44220
23	.23726	.04073	.08948	.32020
24	.55418	.04632	-.08453	.55023
25	.13548	.36882	-.22543	.47685
26	.08326	.48857	-.12991	.51831
27	.25405	.21242	-.16017	.43248
28	.11815	-.13357	.32481	.37010
29	.17197	.06489	.34407	.35220
30	.29181	.07386	-.06372	.38109
31	.49916	-.33513	-.31117	.56904
32	.16158	.07907	.39473	.40313
33	.45820	-.22986	-.20981	.53120
34	.25435	.12157	-.27356	.35939
35	.51118	-.20284	-.13820	.47243
36	.11467	.21035	.03982	.29921
37	.59595	-.12854	-.07774	.57018
38	.30801	.12965	.15294	.38477
39	.25692	-.05287	.14427	.41577
40	.27087	.04324	.16286	.37669
41	.14305	.02427	.19175	.32816

Table 5 (continued)

Item No.	Factor I	Factor II	Factor III	h^2
42	.48738	-.38410	-.06655	.60160
43	.49966	-.14567	-.14069	.51602
44	.49140	-.02546	.16724	.51228
45	.39194	.05917	.30930	.44163
46	.32134	-.05670	.01710	.43698
47	.40818	.03701	.02064	.40554
48	.48920	.05299	.16235	.51434
49	.23746	.12216	.19998	.34946
50	.44611	.03438	.08178	.43566
51	.35938	-.09392	.18995	.41744
52	.29761	-.10306	.12807	.38795
53	.12384	-.06152	-.07733	.32639
54	.55878	-.24849	-.02777	.54110
55	.31305	-.02509	.02587	.40001
56	.39788	.26112	.00016	.49031
57	.46375	.17192	.00049	.55886
58	.01831	-.16257	.23637	.29935
59	.51849	-.02477	-.26809	.51535
60	.26418	.07408	.19177	.46598

The analysis derived by *orthogonal* rotation (see, Table 6) revealed three factors best identified as follows: religious-related guilt (RG), self-oriented guilt (SG), and social-related guilt (SOG).

The first factor " religious-related guilt" contained 11 items with loadings greater than or equal to 0.30 and accounted for 10.2% of the total variance. Inspection of the content of items loading on this factor, showed that this factor deals with guilt feelings over the violation of religious code or obligation. Items loading significantly on this factor include statements such as: "I usually don't mix with people who tend to mitigate religious duties.", "If I am busy and forget to pray, I find it difficult to forgive myself.", "It must be very depressing for someone who is not living up to religious principles and values.", "I am anxious for my negligence in not increasing my knowledge of religious teachings.", "I dislike being late for prayer.".

The second factor "self-oriented guilt" contained 11 items that accounted for 5.38% of the total variance. The common characteristics of items loading on this factor indicate that this factor is associated with guilt feelings evoked by violating one's own standard or values. Items loaded significantly on this factor include statements such as: "I tend to blame myself over failure especially if I could have been able to succeed.", "I feel uneasy when I think about mistakes that I have made in the past.", "I tend to criticise myself whenever I feel that I am not sufficiently cautious of risks.", "I sometimes feel anxious about some personal habits.", "If I caused an accident, due to my carelessness, I would be very angry at myself.".

The third factor "social-related guilt" accounted for 4.55% of the total variance. This factor contained 15 items pertaining to guilt over social relationships. Items loaded significantly on this factor include statements such as: "It is not true that I need to apologise to a friend who felt insulted by something that I have said.", "Failing to help a friend of mine who is in trouble when I could have been of help, causes me painful feelings.", "I can easily break up a relationship with a very close friend.", "When I am unintentionally involved in causing somebody 'trouble', I feel bad about my self, even if the person is unaware of my involvement.", "It would feel hard to me seeing someone in danger without trying to rescue them if I was able to.", "If I cause any inconvenience to others I would apologise right away.", "I tend to regret arguing with friends.".

The items representing the three guilt-proneness factors were refined by including those GPS items with the clearest loadings. Using a criterion of $\geq .30$, 37 items were selected.

Oblique method of rotation (Table 7) appears to show high degree of similarity to the results that are based on the *orthogonal* method - varimax (Table 6). The GPS factors were also examined by three different methods of factor extraction: Maximum likelihood, Unweighted least squares, and Image factoring. Again, almost all items demonstrated a high degree of resemblance to in terms of the magnitude of their loading on the GPS factors (see, *Appendix* N.2). The pattern of factor loading as well as the moderately low factor intercorrelation (see, Table 8) suggest that the three guilt-proneness factors are fairly independent.

Table 6

Varimax Rotation of the **GPS** Factors, derived by the Principal Axis Factor Method ($N = 214$). Items having a loading of 0.30 or higher are shown in boldface.

Item No.	Factor I	Factor II	Factor III
1	-.13989	-.05641	.16120
2	.03025	.01390	.15179
3	-.19871	.07778	**.36928**
4	-.15498	.13934	**.33626**
5	.05973	**.35397**	-.04153
6	-.06523	.05727	.19266
7	.03254	**.33935**	.30708
8	.12323	.09908	.05929
9	.18932	-.01116	-.08027
10	.04401	.04404	**.45330**
11	.15605	.21263	.16019
12	**.32576**	-.10391	.11961
13	-.13448	**.33666**	-.09133
14	-.02639	.01691	**.39649**
15	.08786	.03918	**.45815**
16	.08229	.17965	.07307
17	.22795	.19570	.00670
18	**.51543**	-.01825	-.07918
19	.25789	**.38699**	.22708
20	.07380	.01973	**.35192**
21	.11680	.08301	-.25337
22	.08411	.04746	**.45382**
23	.12385	.21478	.06703
24	**.45477**	.25931	.20578
25	.07643	-.05662	**.44289**
26	-.05781	.00496	**.50906**
27	.19586	.04510	**.30810**
28	-.01945	**.31322**	-.19701
29	-.06343	**.38481**	-.00835
30	.23009	.12728	.15977
31	**.67171**	-.00279	-.08428
32	-.10226	**.42133**	-.01413
33	**.54884**	.06821	-.03046
34	.28764	-.05736	.26131
35	**.54379**	.15996	-.01560
36	-.01157	.12493	.20795
37	**.55089**	.26710	.05391
38	.11293	**.31803**	.14551

***Table 6** (continued)*

Item No.	Factor I	Factor II	Factor III
39	.14761	.25855	-.03130
40	.11229	.29364	.05413
41	.00587	.24035	-.00391
42	**.55902**	.18111	-.21022
43	**.51417**	.15843	.03467
44	.30766	**.41651**	.04414
45	.12694	**.48373**	.05167
46	.26269	.19310	.02173
47	.29240	.25808	.12770
48	.27831	**.42113**	.11694
49	.03751	**.31402**	.10625
50	.29229	**.32895**	.11508
51	.22007	**.34962**	-.05825
52	.20656	.26283	-.06203
53	.15842	.00191	-.00109
54	**.54304**	.27073	-.08098
55	.23974	.19931	.04580
56	.20867	.26369	**.33678**
57	.29387	.29100	.27126
58	-.04162	.18049	-.21984
59	**.54612**	.08197	.19067
60	.08080	**.31689**	.07146

Table 7

Oblique Rotation of the **GPS** factors derived by the Principal Axis Factor method ($N = 214$). Items having a loading of 0.30 or higher are shown in bold face.

Item No.	Factor I	Factor II	Factor III
1	-.14449	.16820	-.04968
2	.02263	.15176	-.00111
3	-.23023	**.37599**	.08122
4	-.19103	**.33971**	.14056
5	.02146	-.05344	**.35769**
6	-.08254	.19457	.05402
7	-.02048	.29923	**.32118**
8	.11238	.05340	.07977
9	.19968	-.08619	-.03259
10	.01965	**.45449**	.00589
11	.12817	.15101	.18425
12	**.34200**	.11389	-.16177
13	-.17402	-.09746	**.37125**
14	-.04700	**.40004**	-.00778
15	.06511	**.45822**	-.00570
16	.06012	.06626	.16728
17	.21105	-.00538	.16781
18	**.53593**	-.09449	-.08643
19	.20931	.21061	**.34376**
20	.05773	**.35208**	-.01592
21	.12175	-.26118	.08698
22	.06047	**.45374**	.00364
23	.09899	.05798	.19783
24	**.42788**	.18689	.18624
25	.06537	**.44583**	-.10126
26	-.08297	**.51479**	-.02377
27	.18227	**.30360**	-.00409
28	-.04816	-.20674	**.33850**
29	-.11036	-.01722	**.40448**
30	.21444	.15077	.08615
31	**.69508**	-.10466	-.09247
32	-.15436	-.02292	**.44790**
33	**.55788**	-.04875	-.00603
34	.29090	.25657	-.11889
35	**.54117**	-.03617	.08775
36	-.03604	.20653	.11468
37	**.53267**	.03073	.19161
38	.07202	.13455	.29961

Table 7 (continued)

Item No.	Factor I	Factor II	Factor III
39	.12269	-.04307	.24652
40	.07835	.04313	.28134
41	-.02219	-.01078	.24606
42	**.56310**	-.23341	.12146
43	**.50862**	.01543	.08674
44	.26526	.02390	**.38028**
45	.07107	.03494	**.47447**
46	.24641	.00882	.15910
47	.26452	.11299	.21381
48	.23124	.09803	**.38390**
49	-.00332	.09731	**.30911**
50	.25659	.09830	.28747
51	.18767	-.07490	**.33160**
52	.18420	-.07590	.24475
53	.16279	-.00581	-.02054
54	**.53025**	-.10513	.20627
55	.22099	.03359	.16699
56	.16831	**.32608**	.21627
57	.25568	.25676	.23692
58	-.05425	-.22542	.20714
59	**.54350**	.17388	-.00763
60	.04244	.06088	**.30842**

Table 8.1

Factor correlation matrix

GPS Factors	Factor I	Factor II	Factor III
Factor I	1.000		
Factor II	0.14034	1.000	
Factor III	0.27246	0.13569	1.000

Table 8.2

Interrelations among the three **GPS** subscales (based on factor scores; N = 214).

GPS scales	**RG**	**SG**
Religious-Related Guilt (**RG**)	–	
Self-Oriented Guilt (**SG**)	0.198*	–
Social-Related Guilt (**SOG**)	0.435***	0.274**

Note. *** = $p < 0.0001$
** = $p < 0.001$
* = $p < .0.01$

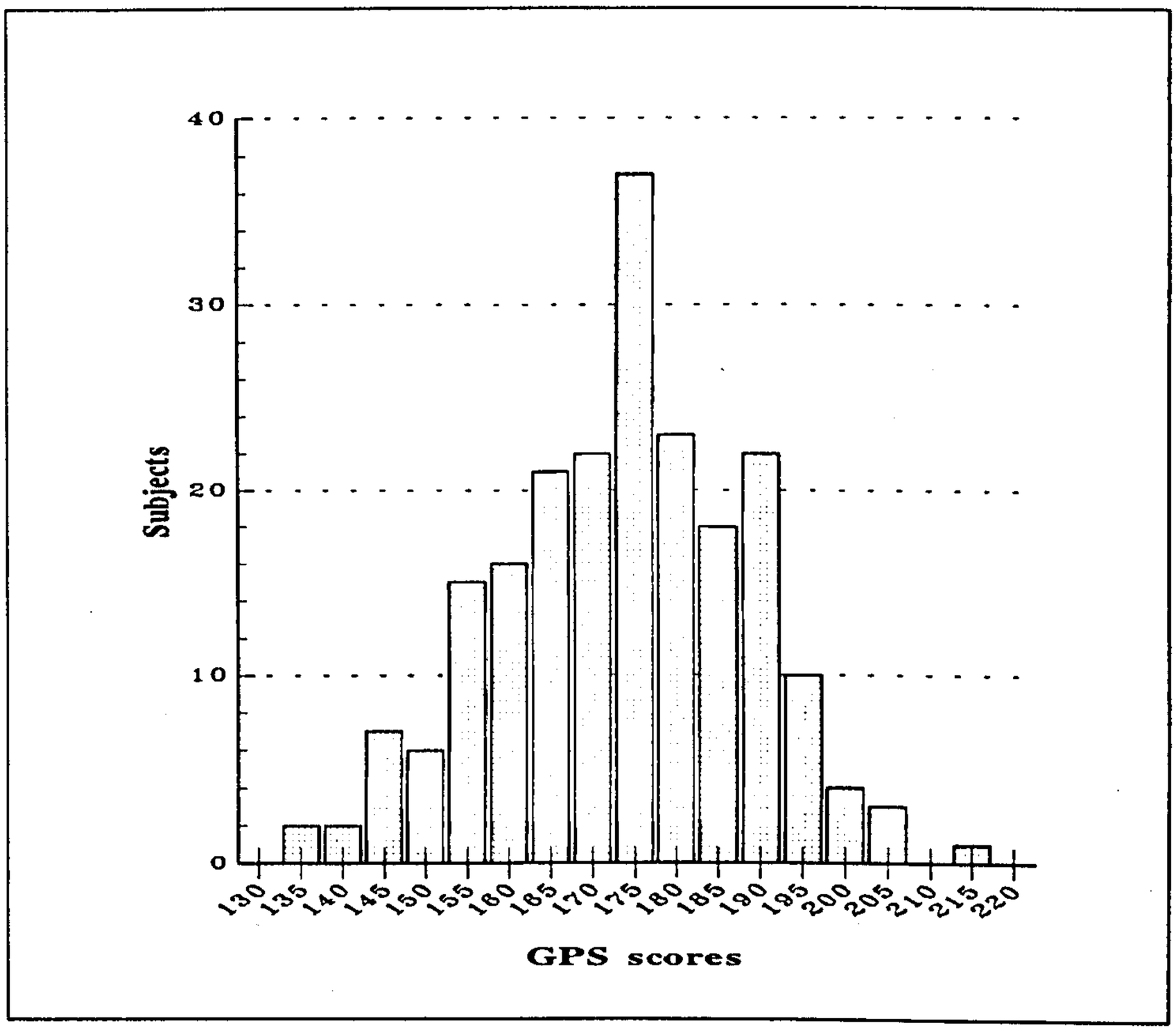
(2) Descriptive Statistics of the GPS

Table 9

Mean, Standard deviation, Median, Mode, Skewness, and Range of scores on the 37-item **GPS** scale. ($N = 214$).

Mean	STD	Median	Mode	Skewness	Range of Scores	Maximum	Minimum
172.374	16.001	174.00	171.00	-0.423	85.00	213.00	128.00

FIGURE 6 Frequency distribution of GPS scores with N = 214 Subjects.



As can be seen from Figure 6 and Table 9, the frequency distribution of the 37-item GPS scores is nearing a symmetric shape. The distribution is negatively, but not sharply, skewed. The value obtained for skewness appeared to be close to zero (skewness = -0.42). This indicates that the distribution slightly extended towards the lower end of the scale. However, there was only slight difference in the frequencies of the high and low scores on the GPS scale. In general, the mean, medium, and mode tend to be closely located.

Table 10

Mean, Standard deviation, and Range of scores for the three **GPS** factors: the Religious-Guilt (**RG**), Self-Oriented Guilt (**SG**), and Social-Related Guilt (**SOG**) ($N = 214$).

Scale (factor)	**No. of Items**	**Mean**	**STD**	**Range of Scores**
Religious-Related Guilt	11	52.88	7.87	28 - 66
Social-Related Guilt	15	68.73	8.7	37 - 89
Self-Oriented Guilt	11	50.75	6.54	31 - 62

Table 10 presents descriptive statistics of the refined 37-item Guilt-Proneness Scale based on all 214 subjects. Factor scores were obtained by summing the items which had loading of 0.30 or higher on each of the three factors.

(3) Reliability of the Guilt-Proneness Scale (GPS)

Cronbach's (1951) coefficient alpha was computed to estimate internal consistency of the GPS. The test-method of reliability analysis was employed using Pearson product-moment correlation coefficient. The reliabilities of other instruments used in the present study were also tested using either of the above methods.

The reliability of the Guilt-Proneness Scales (GPS) was assessed in two ways. Firstly, internal consistency of the GPS was tested using Cronbach's coefficient alpha for the entire sample of 214 university students and junior high school pupils. This is an internal measure of reliability which utilises a single administration of a single scale form. It is based upon the consistency of responses to all items in the scale. Cronbach's (1951) coefficient alpha was chosen because of its appropriateness for test like the GPS which have multiple-scored items rather than dichotomous. The Cronbach alpha was computed for the scale as a whole and then was computed for each individual subscale separately.

Secondly, to provide some indication of temporal stability of the GPS, test-retest reliability, based on two weeks interval, was carried out. The Pearson product-moment correlation was computed on data derived from a subsample of 58 subjects. The test-retest reliability obtained was r 0.847

The resulting Cronbach alphas and test-retest correlations for the GPS and the subscales: religious-related guilt, self-oriented guilt, and the social-related guilt are presented in Table 11.

Table 11

Internal consistency (Cronbach's alpha) and test-retest reliability for the **GPS** (total guilt) and the subscales: Religious-Related Guilt (**RG**), Self-Oriented Guilt (**SG**), and Social-Related Guilt (**SOG**).

Scale	**Internal Consistency** ($N = 214$)	**Test-retest** ($N = 58$)
Religious-Related Guilt	0.81	0.80
Self-Oriented Guilt	0.67	0.724
Social-Related Guilt	0.72	0.75
Total Guilt-Proneness	0.82	0.847

The results of the reliability assessment, displayed in Table 11, indicate that the reliability of the GPS and its subscales, as computed by both test-retest and internal consistency methods, has demonstrated a satisfactory level.

Chapter Eight

Investigating the Clinical Validity of the GPS: GPS Correlation with A Diagnostic Interview Measure of Guilt (GDI)

Purpose

For the purpose of evaluating the validity of the GPS, through an independent criterion, it was decided to examine the relationship between GPS scores and guilt scores that are obtained by means of clinical rating. This evaluation was particularly relevant since the present instrument was devised in order to permit research on guilt in clinical settings.

To achieve this, a diagnostic interview for assessing the level of guilt was conducted with 75 young male drug-abusers who had voluntarily placed themselves for a drug rehabilitation programme at al-Amal Hospital (**AAH**) in the city of Riyadh in Saudi Arabia.

As some research findings have indicated that most illicit drug users who determine to seek ways out of dependence are characterised by guilt feelings (e.g., Potter-Efron, 1988, 1989, 1993; Fehr, 1988; Heitun, 1985; Lockley, 1995), drug patients who were voluntarily registered for the drug rehabilitation programme, were chosen.

Method

Participants

The total number of patients at AAH during the period of testing (from 6 August 1990 to 27 August 1990) was eighty six. Two patients refused to participate in the testing. Nine patients who were treated in a special care unit were excluded from interviewing. The reason was that these patients would not be able to communicate successfully in the interview. The remaining 83 patients served as participants. They ranged in age from 17 to 26. Their educational level ranged from junior high school to college education. 28 of the patients were heroin users, 23 alcoholics and 32 multi-drug abusers who experimented with two or more of the following types of drugs: barbiturates, cannabis, glue and volatile solvent sniffing. The number of participants were confined to those voluntarily coming to the hospital for treatment. No patients who were admitted to the AAH under legal pressure were included in the study.

Procedure

The investigator made the necessary arrangements with the authorities at the AL-Amal Hospital a week prior to testing the patients. The investigator also explained to the authorities at the AAH the purpose of gathering the data and assured them that all information gathered would only be used for research purposes. The authorities welcomed the topic and instructed staff to provide assistance or facilities needed throughout the process of collecting the data.

Before interviewing the patients, the investigator had arranged with a psychiatric social worker at the AAH for a tour round the units of the hospital. This tour was intended to enable the investigator to meet the patients and to develop rapport with them.

The patients, then, were asked to participate in the investigation. At the same time the investigator told the patients that anyone could withdraw if he did not wish to participate for any reason. They were reassured that information derived from their responses would be revealed to no one; each patient would be assigned to a code and personal names would not be used.

The diagnosis was performed in the form of a semi-structured interview. Two psychiatric social workers and the present investigator, who had some training in clinical interviewing, independently, interviewed approximately 25 patients each.

Several strategies known to be useful in clinical interviewing were employed. These include:

(1) Allowing about 10 minutes for establishing rapport.

(2) Actively listening to the client.

(3) Staying in contact with the client and using verbal reinforcement to encourage the client in expressing his feelings.

Prior to interviewing, the present investigator met with the two external interviewers and discussed the general structure of the interview. Several pilot interviews were conducted to evaluate the progress of the interview. These pilot interviews were useful in assessing the client's reaction and willingness to revealing relevant information.

The interview focused on the patient's guilt feelings over his involvement in drug abusing behaviour. Seven questions were prepared for probing guilt feelings during the interview (see, *Appendix* **P**). Audio-tape and written recording were used by interviewers. The time spent to interview each patient ranged between 30 to 40 minutes. The first ten minutes were assigned for establishing rapport.

Quantitative Analysis of the Diagnostic Interview (GDI)

After interviews were completed, content analysis of responses obtained were done by five psychologists who served as independent judges. The judges assessed guilt feelings on a 6-point scale using a scoring manual prepared to aid them in making the rating. This type of scale was used to allow assessing various degrees of guilt intensity. A value of *0* was assigned to total absence of emotional disturbances related to the patient's involvement in drug abusing behaviour (*the lower extreme*), and a value of *5* used to indicate internal focus including negative self-judgement due to involvement in drug taking, with expression of remorse and self-blame (*upper-extreme*)

Scoring Schedule

For the purpose of standardising rating criteria, as much as possible, the investigator met with the five raters and discussed a scoring manual for rating the presence of guilt for each individual protocol. The scoring manual that was used, in the present study, for probing the manifestation of guilt in the protocol of each individual patient, is outlined as follows:

Indicators of guilt accompanied by very strong affect receive a scoring weight of 5. Statements to be given this scoring weight include the following general types of contents:

(*a*) statements of extreme self-condemnation, regret, and with expression of real commitment to refrain from the use of illicit drug use. (*b*) statements describing people who have no intention to give up the use of illicit drugs, as very irresponsible, careless, or mad people. (*c*) reports of extreme unpleasant feelings which were related, by the patient, to his involvement in illicit drug use. (*d*) reports of extreme feelings of being or doing evil. (*e*) reports that the patient will never forgive himself for his past illicit drug use.

Indicators of guilt accompanied by moderate to strong affect receive a scoring weight of 4. The general types of rating on this category include the following: (*a*) admissions or anticipations of feelings of guilt, remorse, or sinfulness. (*b*) statements expressing regrets and remorse about the first experience with illicit drugs. (*c*) statements expressing that the patient was doing something 'bad' or wrongful'. (*d*) statements indicating sincere desire to refrain from the use of illicit drugs. (*e*) statements indicating that the use of illicit drugs lead to a miserable life. (*f*) admission of general wrong-doing. (*g*) reports involving the patient's attempts at restitution or undoing.

Indicators of mild to moderate guilt receive a rating weight of 3. The general type of statements which are assigned rating weights of 3 include the following: (*a*) statements condemning first experience with drugs but with no emotional involvement. (*b*) statements that society condemns illicit drug use. (*c*) statements describing the use of illicit drugs as an act against society. (*d*) statements that

when one does wrong one should confess. (*e*) reports indicating an inability to recognise any negative consequences, in relation to the self or others, that accompany the use of illicit drugs. (*f*) reports indicating slight depression and. (*g*) statements describing the act of using illicit drugs as silly, stupid or ridiculous. Most neutral statements receive a rating weight of 2.

Statements which seem to be mildly to moderately non-guilty receive a rating weight of 1. The general type of statements assigned this weight include the following: (*a*) statements that illicit drug use is natural or normal. (*b*) statements that illicit drug use is a common occurrence. (*c*) statements indicating that the patient is more interested in immediate physical treatment rather than proper rehabilitation. (*d*) statements indicating the patient expresses a justification for past use of illicit drugs. (*e*) expressions that imply no commitment or co-operation, on the part of the patient, with the rehabilitation program at AAH.

Statements which indicate an absence of guilt receive a rating weight of zero. The general type of statements assigned this rating score include the following: (*a*) statements that illicit drug use is normal and desirable, or natural with some affective involvement. (*b*) expressions of clear unwillingness to give up the use of illicit drugs. (*c*)statements which deny feelings of guilt. (*d*) statements that describe illicit drugs use as pleasurable. (*e*) statements that provide a justification for continuing the use of illicit drugs.

Inter-Rater Reliability

To examine the extent to which the five judges had agreed in rating the presence of guilt feelings for each subject, Kendall coefficient of concordance for evaluating *Inter-rater Reliability,* was employed.

First, Kendall's coefficient of concordance was computed on the rating scores, given by the five raters, on *content* which was collected by means of tape recording (N = 26 patients). Kendall's coefficient of concordance indicated a substantial inter-rater reliability (W = 0.78, chi-squared = 98.5, *df.* = 25, p = < 0.001). For this coefficient of concordance the average correlation between the five independent judges is 0.73 (based on the method of calculating mean r_s as outlined in Hays, 1965, pp. 657-658).

Second, Kendall's coefficient was performed on the rating, given by the five raters, on content that was based on written recording (N = 49 patients). The observed Kendall's coefficient was statistically significant (W = 0.83, chi-squared = 201.1, *df.* = 48, p = < 0.001). For this Kendall's coefficient of concordance the average correlation between the five independent judges is 0.79. To test whether patients' rating scores that were based on the two techniques, used for recording interview content, could possibly combined in one set of data, *t*-test was used (Table 12).

Table 12

t-test for the differences between mean guilt rating scores of two methods of Interview recording: (1) Written verbatim, $N = 49$ patients, and (2) Tape recorded verbatim, $N = 26$ patients.

Method of Interview Recording	*N*	Mean	S. Dev.	S. Error	*df.*	*t*	*p*
Written Protocols	49	3.2041	1.267	0.181	73	-0.63	0.533
Tape-recorded Verbatim	26	3.3846	1.024	0.201			

Note: *t*-test was based on pooled variance estimate as the value of F was not significant ($F = 1.53$, $p = .254$).

As indicated in Table 12, t-test revealed no significant mean differences as to whether guilt rating score was based on tape recording or on written protocols. Further, the use of the non-parametric test: Mann-Whitney, also demonstrate no significant difference ($U = 600.5$, $W = 1024.5$, Z = -0.407, $P = 0.68$).

Since there was no significant mean differences between the two techniques of recording the interview content, rating scores which were based on tape recording, and those rating scores which were based on verbatim recording, both set of scores were combined (*N* became 75 Ss) and were used for subsequent analyses.

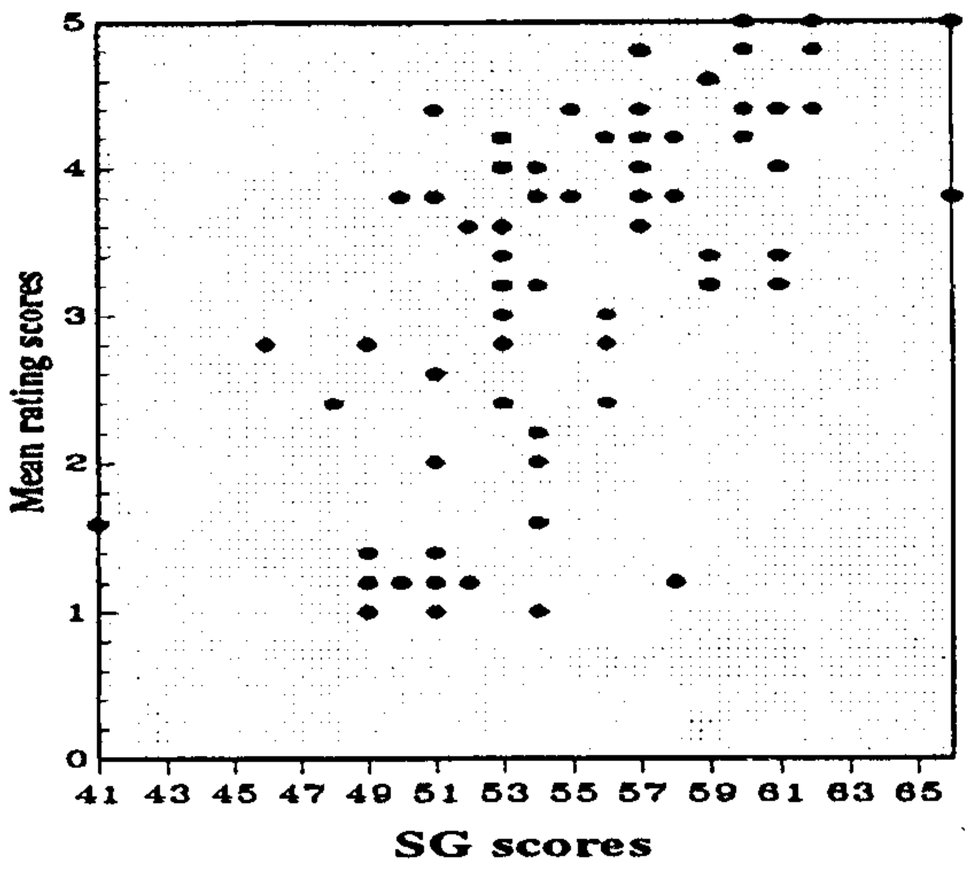
As there was a satisfactory inter-rater reliability as indicated by Kendall's *W*, a guilt rating score, for each subject, was computed by averaging the sum of scores that were given by the five raters to each subject.

Results of correlation between the GDI and GPS

In order to examine the relationship between the drug patients' scores on the Diagnostic Interview measure of guilt (GDI) and their scores on the Guilt-Proneness Scale (GPS), Pearson correlation coefficient was utilised. The relationship of the Diagnostic Interview to other guilt scales, including, the BDHG, HG, MG, and PGI, was also examined. Table 13 presents Pearson *r's* between the GDI, GPS and other guilt scales. Subjects' Scores on the GPS subscales: RG, SG, and SOG, were also plotted against their mean GDI rating scores (Figure 7 to Figure 9).

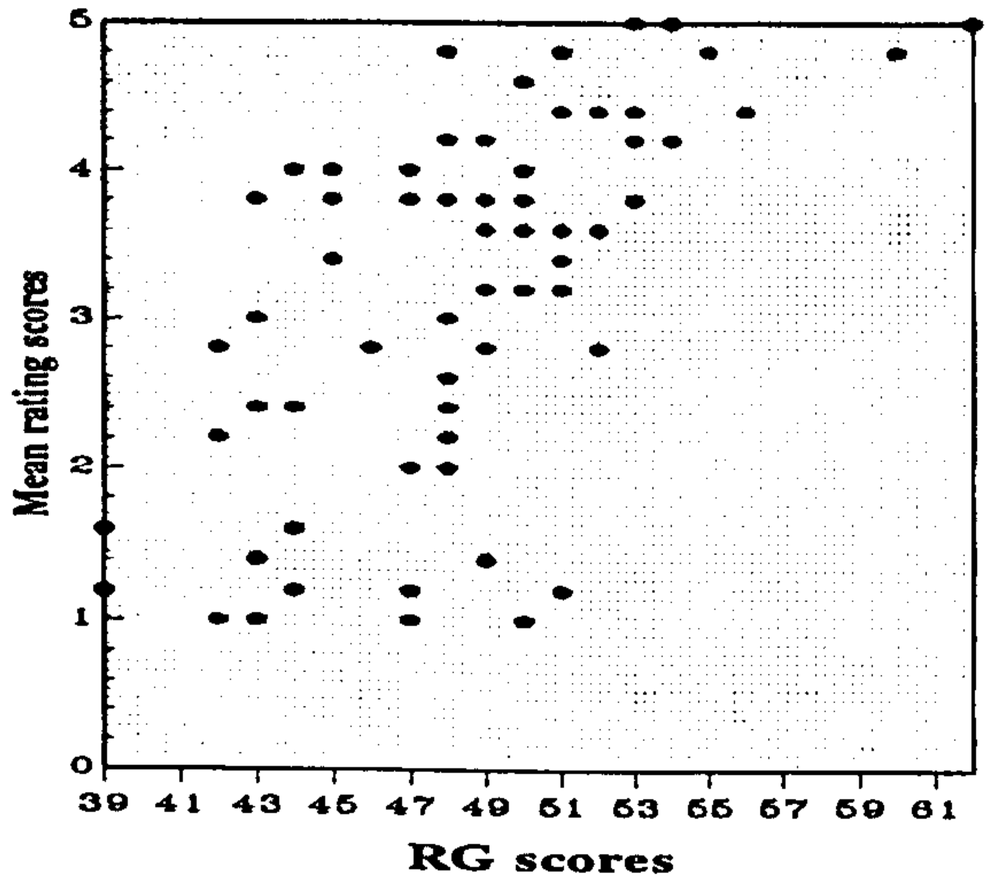
Scatter Plot charts representing the relationship of the GDI interview measure of guilt to the GPS total scores and the subscales: Religious-related guilt (RG), Self-oriented guilt (SG), and Social-related guilt (SOG).

FIGURE 7 Scatter Plot of **SG** scores vs. Rating scores. N = 75 Ss.



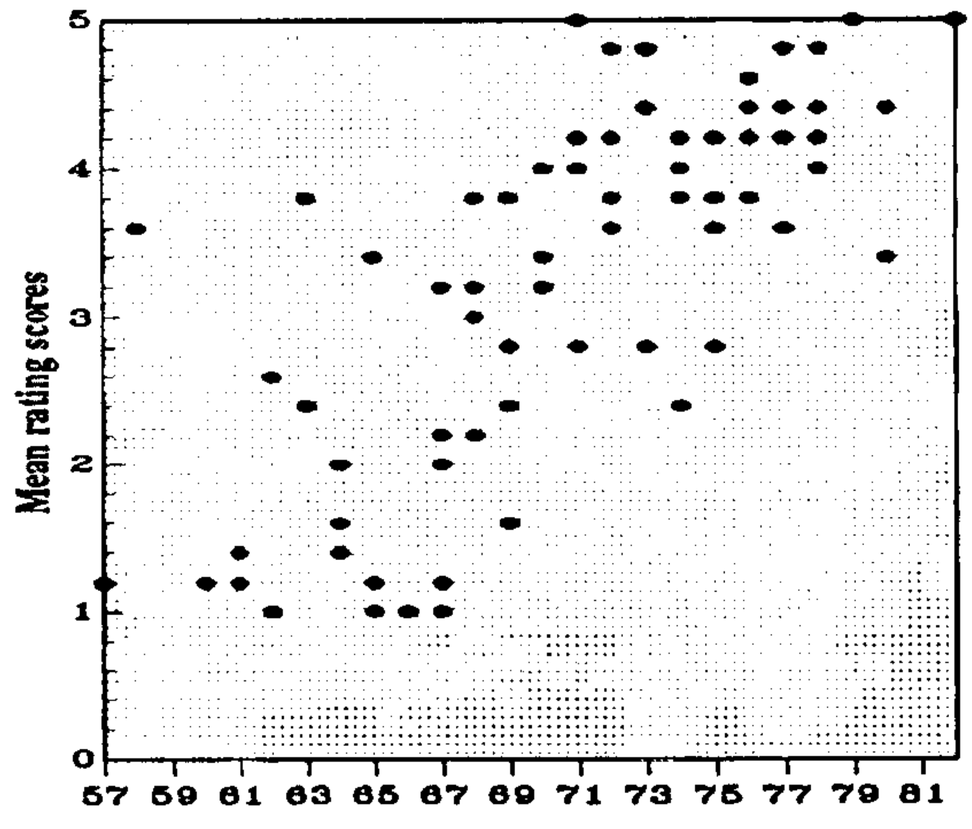
(r = 0.61)

FIGURE 8 Scatter Plot of **RG** scores vs. Rating scores. N = 75 Ss.



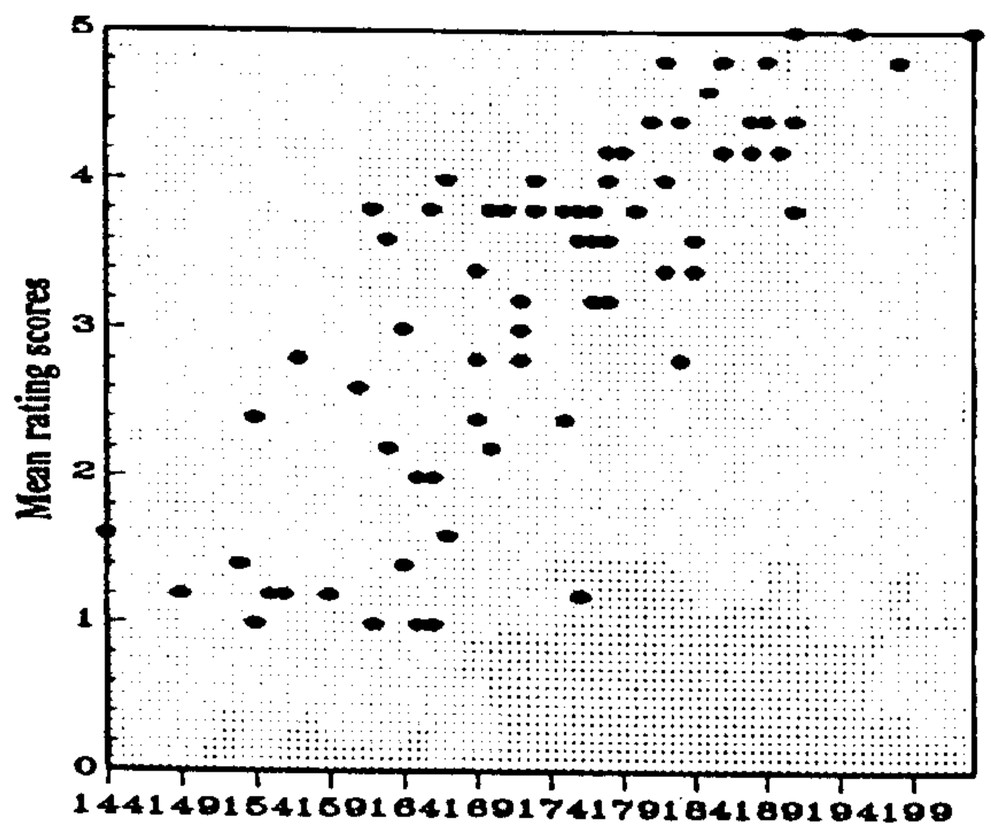
(r = 0.63)

FIGURE 9 Scatter Plot of **SOG** scores vs. Rating scores. N = 75 Ss.



(r = 0.75)

FIGURE 9.1 Scatter Plot of **GPS Total** score vs. Rating scores. N = 75 Ss.



(r = 0.79)

Table 13

Pearson Correlation Coefficents between the **GDI** and the guilt measures: **GPS Total** and the subscales, **RG**, **SG**, **SOG**, and **BDHG**, **HG**, **MG**, and **PGI**.

Guilt Measures	No. of Ss	Guilt Diagnostic Interview (GDI)
RG	75	0.635***
SG	75	0.612***
SOG	75	0.737***
GPS Total	75	0.798***
BDHG	53	0.326*
HG	53	0.441**
MG	53	0.378**
PGI	53	0.364**

Note 1. ***RG** = Religious-Related Guilt subscale; **SG** = Self-Oriented Guilt subscale; subscale; **SOG** = Social-Related Guilt subscale; **BDHG** = Buss-Durkee Guilt scale; **HG** = Mosher Hostility-Guilt scale; **MG** = Mosher Morality-Conscience Guilt scale; **PGI** = Perceived Guilt Index.*

Note 2. *** = $p < 0.001$*
** = $p < 0.01$*
* = $p < 0.05$*

As can be seen from Table 13, the Diagnostic Interview measure of guilt (GDI) correlate significantly with all guilt scales. The relationship of GPS total and subscales to the GDI is significant ($p< 0.001$). However, while the other four guilt scales did correlate significantly with the GDI, the size of correlation is substantially lower than the size of correlation that was observed between the GDI and GPS.

Summary and Conclusions

To investigate the validity of the Guilt-Proneness Scale (GPS) through an independent method, the GPS measure of guilt was correlated with a diagnostic interview assessment of guilt (GDI). The GPS is significantly related to the diagnostic interview measure of guilt (r's ranged from 0.789, $p< 0.001$, to 0.612, $p< 0.001$). Hence, this degree of association warranted an evidence for the validity of the GPS

Although the other four guilt scales did correlate significantly with the GDI, the size of correlation is substantially lower than that observed between the GDI and the GPS. This indicates that the GPS is more appropriate for use with Saudi subjects than the other four guilt scales (BDG, HG, MG, and PGI) which were all originated in Western cultures.

In comparing the size of correlation between the GDI and other guilt scales, it is apparent that both Mosher guilt scales correlated with the GDI better than did the GDI, BDG, or the PGI.

Chapter Nine

Investigating the Construct Validity of the GPS

In addition to the analyses, reported previously in Chapter 7 and Chapter 8 which concerned the assessment of face validity and clinical validity of the GPS measure of guilt-proneness, this Chapter presents a number of methods that are used in the evaluation of the construct validity of the scales. First, the GPS relationship with other existing guilt scales is examined. A second analysis examines the relationship of the GPS to measures of constructs that have been found to have some theoretical relevance with guilt-proneness. The third analysis concerns the examination of a possible correlation between of the GPS and constructs that should not, under adequate test construction, relate to guilt-proneness: an issue of discriminant validity.

Psychometric Instruments used in the Construct Validation of the GPS

To allow for investigating the construct validity of the GPS a number of psychometric measures have been used. These measures were the Mosher Morality-Conscience Scale (Mosher, 1985), the Mosher Hostility-Guilt Scale (Mosher, 1985), the Perceived Guilt Index (Otterbacher & Munze, 1973), the Buss-Durkee Hostility-Guilt Subscale (Buss & Durkee, 1957). Other related scales were also used which include: the Arabic versions of the MMPI Depression Scale (*D;* Al-Hajj, 1981), MMPI Psychopathic Deviate Scale (*Pd*; Al-Hajj, 1982), the Arabic version of the Coopersmith Self-Esteem Inventory (Abdulhafidh, 1984), the Arabic version of the Marlowe-Crowne Social Desirability Scale (Kafafy, 1984), and the Youth Intelligence Test (Zahran, 1976).

(1) The Mosher Guilt Scale (MGS)

This test is a pen-and-paper format, composed of 103 items. The items are designed to measure three aspect of guilt: sex guilt, hostility guilt, and morality-conscience guilt. Research has provided strong evidence of the construct validity of the Mosher Guilt Scales (Mosher, 1985).

The test has reliabilities of 0.91, 0.84, and 0.84 for the sex, hostility, and mora lity-conscience guilt (Mosher, 1966). The MGS form has 29 items in the Hostility Guilt subscale, 22 items in the Morality-Conscience subscale and 28 items for Sex Guilt subscales.

Mosher (1966) in a multitrait-multimethod matrix analysis found evidence of convergent validity of the three guilt subcategories as measured by the Mosher Forced-Choice Inventory (1966), Mosher Incomplete Sentence Test, and the Mosher True-False Inventory. Reliability for the Forced Choice Inventory were .97 for sex guilt, .96 for hostility guilt and .92 for morality-conscience guilt. Evidence for discriminant validity was found between the Forced Choice Inventory and both the Taylor Manifest Anxiety Scale and the Edwards Social Desirability scale in a multitrait-multimethod matrix analysis (Mosher, 1966). Similar findings were presented by Mosher (1966) about the female form of the Mosher Inventory. In a multitrait-multimethod matrix analysis, Mosher found convergent validity among the different Mosher guilt inventories.

The Mosher Guilt Scales have been found to have considerable construct validity (Abramson, Mosher, Abramson & Woychowski, 1977; Kugler & Jones, 1992) for

example, individuals scoring high in sex guilt reported that they limited their sexual participation (Abramson and Mosher, 1975; Mosher and Cross, 1971) and those with lower sex guilt scores spend more time reading erotic literature (Schill & Chapin, 1972). High hostility guilt subjects experienced significantly more guilt than low hostility guilt subjects following aggressive behaviour (Okel & Mosher, 1968). Roma and Mosher (1967) found morality-conscience guilt to be significantly related to the level of moral judgement and global clinical ratings of guilt in delinquent boys. The Mosher Inventory also has shown considerable validity in the majority of studies since the mid of 1960s. Mosher (1985) reported that more than 100 studies had been conducted supporting the construct validity, and continued use of the Mosher Guilt Scales. Two scales of the revised Mosher Guilt Scales (Mosher, 1985) were utilised in the process of evaluating the validity of the present Guilt-Proneness Scale. The two subscales were: the Mosher Hostility Guilt Scale (HG), and Morality-Conscience Guilt Scale (MG).

The Mosher Sex-Guilt Scale (MSG) was not considered for use in the present study for two main reasons. First, the items forming the MSG contain a more explicit sexual expressions which would be considered, by the average Saudi individual, as inappropriate. Another reason relates to the fact that research has revealed that the Mosher sex guilt category may overlap with the other two categories. Evans, Jessup, and Hearn (1975), in a factor analytic study, reported that Mosher's sex guilt and morality-conscience guilt were represented by one factor (named as behaviour contrary to moral or ethical principles). These investigators argued that guilt over inappropriate sexual behaviour is not due to the type of behaviour itself, but rather to the transgression of moral or ethical principles relating to sexual behaviour.

Similarly, O'Grady, and Janda (1979) have examined the factor structure of the Mosher sex-guilt scale and found that only half of the scale item (14 out of 28 items) may be explained in terms of sexual experience. Four factor were extracted, namely-childhood sexual experiences, sexual relations before marriage, feelings about adultery, and sociosexual guilt. Again, these factors (which based only on half of the scale items) may be seen as representing guilt situations which involve transgression of religious or moral principles as seen by Evans, Jessup, and Hearn (1975).

For the two reasons discussed above, only two scales of the revised Mosher Guilt Scales (Mosher, 1985) were employed in the process of examining the validity of the new guilt instrument (GPS). These two scales were the Morality-Conscience Guilt scale (Mosher, 1985), and the Hostility Guilt scale (Mosher, 1985). These two scales were translated into Arabic by the present investigator. The quality of translation of the two scales was endorsed by three independent judges. The reliability of both the Mosher Hostility Guilt scale (HG), and Mosher Morality-Conscience Guilt scale (MG), in their Arabic versions, was tested in the present study. A test-retest reliability which was based the data of 92 Ss., with two weeks interval, was computed for the two scales. The observed reliability coefficients were 0.71, and 0.69, for the HG and MG respectively.

(2) The Buss-Durkee Hostility Inventory:

This is a pen-and-paper test developed by Buss and Durkee (1957). It comprises 75 true-false items designed to measure various aspects of hostility. A guilt scale was included because the relationship of guilt to various hostility sub-scales. The inventory consists of the following scales: assault, indirect hostility, irritability, negativism, resentment, suspicion, verbal hostility, and guilt. Guilt is defined in this inventory as feelings of being bad, having done wrong, suffering pangs of conscience. The guilt within this inventory is a nine item scale which include items on cheating, failing, doing wrong, having bad thoughts, being forgiven for sins, living the wrong kind of life. This scale is composed of items which are less specific than the items in the Mosher Guilt Inventory.

The study of Biaggio, Supplee and Curtis (1981) supports the construct validity of the BDHI. Sander (1984) reported that the Buss-Durkee Guilt Subscale were able to differentiate between normal and criminal groups.

Biaggio, Supplee, and Curtis (1981) reported a test-retest reliability coefficient of 0.82 for the BDHI guilt subscale. In the present study, the test-retest reliability of the Arabic version of the BDG, which was based on two weeks interval, indicated a reliability coefficient of 0.66 (N = 78).

(3) The Perceived Guilt Index:

This instrument was developed by Otterbacher and Munze (1973). It is a self-report of experiential guilt. It composed of eleven adjectives that represent the level of guilt along a continuum of intensity of guilt feeling from feeling of no guilt to feeling of extreme guilt. These adjectives are in ascending order of intensity: innocent, undisturbed, restrained, pent-up, fretful, chagrined, reproachable, marred, degraded, disgraceful, and unforgivable. The respondent is required to point out only one adjectives that represents true description of himself. Scores on this scale could range between 1.1 to 10.4 .

Construct validity and reliability have been shown to be moderate (Heying and Munze, 1974; Otterbacher and Munze, 1973). This scale was also translated, in this study, into Arabic by the present investigator. The reliability of the Arabic version of the PGI was computed using a test-retest technique. A satisfactory level of reliability ($r = 0.704$) was observed for the PGI

Subsidiary Measures

(*a*) The Youth Intelligence Test (YIT)

This test has been developed by Hamid Zahran (Zahran 1976). It is a non-verbal intelligence test intended to assess general mental ability in adolescents and adults. It is considered as a culture-fair test and it can be administered to both a literate or illiterate population. The YIT contains one hundred figures. The figures are grouped according to a shared similarity into twenty units. Each unit contains five figures. The respondent is asked to look at the five figures in each unit and to identify the one that differs from the rest within that unit. All figures in the test are identified in the same manner. Respondents are given half an hour to complete the test.

Zahran (1974) reported two methods for establishing the validity of the YIT: (a) the YIT was correlated with a measure of school achievement (examination marks of secondary school pupils); where a correlation coefficient of 0.672 was obtained (subjects were 100 Saudi pupils). (b) The YIT was correlated with a verbal measure of intelligence; here a significant correlation of 0.704 was observed (N =100 Saudi pupils). The reliability of the YIT was assessed by means of test-retest technique using the data of the same sample of subjects (Ss = 100) and a correlation coefficient of 0.844 was reported (Zahran, 1976). The reliability of the YIT has also been investigated in the present study using test-retest method with two weeks interval. The reliability coefficient observed for the YIT in the present study was a correlation of 0.76. This correlation was based on the data of a sample of 47 Saudi junior high school pupils. To illustrate the nature of the YIT, a sample of the test tasks are found in *Appendix* I.

(*b*) The Marlowe-Crowne Social Desirability Scale (SD)

This scale was devised by Marlowe and Crowne as a measure of social desirability which is independent of psychopathology. It is a paper and pencil format containing 33 items. The respondent is asked whether he/she agrees or disagrees to each statement in the scale. A need for social approval is cited as the personality characteristic underlying the tendency to endorse the items contained in the scale. The items of this scale include statements such as: "*I am always careful about my manner of dress*", "*I never hesitate to go out of my way to help someone in trouble*" Internal consistency reliability for the scale was found to be satisfactory, $r = 0.88$ (based on 39 subjects, 10 males and 29 females) A test-retest reliability (based on thirty-one of these subjects) was also obtained for the scale with a month interval, $r = 0.89$ (Crowne & Marlowe, 1960). Regarding the validity of this scale, a significant correlation coefficient of 0.35 was found between the Edwards Social Desirability Scale and the M-C SDS.

In addition, in previous studies the M-C SDS has been correlated with the MMPI K and L subscales. Positive significant correlation coefficients of 0.40, and 0.54 (respectively) were reported (Crowne & Marlowe, 1960). The Arabic version of the Marlowe-Crowne Social Desirability Scale (translated and standardised by Kafafy, 1984) was utilised in the present study. Kafafy (1984) has successfully produced an Arabic version of the M-C SDS using a group sample of 281 subjects, 133 males and 148 females. Kafafy (1984) reported an internal consistency reliability of 0.656. When applying Spearman-Brown formula, this coefficient could increase to 0.792 (Kafafy, 1984). Test-retest reliability was also reported, by Kafafy, to be satisfactory, $r = 0.631$ (based on 281 subjects). The validity of the Arabic version of the M-C SDS was established using two methods of validation: (a)

Kafafy reported a face validity for the Arabic version which was assessed by a panel of ten qualified judges. As reported, a 100% agreement was reached by the judges on 29 items of the scale (the total number of items in the M-C SDS being 33). In addition, the following correlation coefficients were obtained between the Arabic version of the M-C SDS and three lie scales: a correlation of 0.57 with MMPI Lie scale, a correlation of 0.57 with Eysenck Lie scale (Form a), a correlation of .48 with Eysenck Lie scale (form b) (Kafafy, 1984). In the present study, the reliability of the Marlowe-Crowne Scale (the Arabic version), has been examined using the test-retest method with two-week interval; $r = 0.65$ (based on a sample of 42 subjects).

(*d*) The Depression Scale (D)

This scale is a subscale of the Minnesota Multiphasic Personality Inventory (MMPI). It is a self-administering format containing sixty items. This scale was developed originally to assess symptomatic depression. The primary characteristics of symptomatic depression are poor morale, lack of hope in the future, and general dissatisfaction with one's own life situation. Many of the items included in this scale deal with various aspects of depression such as denial of happiness and personal worth, psychomotor retardation, and withdrawal, and lack of interest in one's surroundings. Other items in the scale cover a variety of other symptoms and behaviours. The description of this scale as given by Graham (1993, pp. 35-36) in his book "*MMPI-2 assessing personality and psychopathology*" indicates that high scorers on this scale ($T > 75$) often display depressive symptoms. They may report feeling depressed, blue, unhappy, or dysphoric. They tend to be quite pessimistic about the future in general and more specifically about the likelihood of overcoming their problems. Behavioural manifestations may include refusal to

speak, crying, and psychomotor retardation. High scorers also show marked lack of self-confidence. They report feelings of uselessness and inability to function in a variety of situations. On the other hand, low scorers on this scale tend to be more comfortable than high scorers. Low scorers also tend to experience less tension, anxiety, and guilt than high scorers. They tend to be self-confident and generally are emotionally stable and capable of effective functioning in most situations. They are cheerful and optimistic and have little difficulty in verbal expression. They are alert, active and energetic. Low scorers also tend to be somewhat impulsive and under controlled. Their lack of inhibitions leads them to be somewhat show-offish and exhibitionistic, and they may arouse hostility and resentment in other people. The reliability of the Arabic version of this scale (Al-Hajj, 1981) was assessed in the present study. A test-retest was conducted with two weeks interval. The resultant reliability coefficient was 0.79, based on responses of 88 university students.

(*e*) The Psychopathy Deviate (*Pd*)

This scale is a subscale of the Minnesota Multiphasic Personality Inventory MMPI. It is Known as scale 4 of the MMPI. This scale was developed to identify patients diagnosed as having psychopathic personality, asocial or normal type. The 50 items in this scale cover a wide array of topics including absence of satisfaction in life, family problems, delinquency, responses include both admissions of social maladjustment and assertions of social poise and confidence. According to the description of this scale, provided by Graham (1993, pp. 63-66) in his book "*MMPI-2 assessing personality and psychopathology*" indicates that individuals scoring high on scale 4 (particularly if the T score is >70), have great difficulty in incorporating the values and standards of society and they are likely to engage in a wide array of asocial or antisocial behaviours. These behaviours may include

lying, cheating, and stealing. High scorers also tend to engage in sexual acting out and excessive use of alcohol and/or drugs. High scorers on this scale tend to be rebellious towards authority figures and often are in conflict with authorities of one kind or another. They often have stormy relations with their families. Low school achievement, poor work history, and marital problems are characteristic of high scorers. High scorers are described as very hostile, aggressive, and insensitive to others. They experience little guilt and remorse over their behaviour. On the other hand, low scorers on the *Pd* tend to be very conventional, conforming, and accepting of authority. They are concerned about how others will react to them, and they tend to be sincere and trusting in their interpersonal relationships. Low scorers are also characterised by low levels of drive. In addition, they are seen as moralistic and rigid in their views. Low scorers tend to be very critical of themselves.

The reliability of the Arabic version of the Pd scale (Al-Hajj, 1982), was assessed in the present study, yielding a coefficient of 0.78. This coefficient was based on test-retest method with two weeks interval ($N = 88$).

(*f*) The Self-Esteem Scale (SE)

This is a self-report format comprises, twenty five items, answered in a 'yes' or 'no' manner. This test was originally designed to assess self-esteem in children. A short form was then adapted for use with adolescents and adults (Coopersmith, 1967). Coopersmith reported a positive correlation ($r = 0.80$, $N = 647$) between the Self-Esteem Scale and another measure of self-esteem (the Children form). The reliability of the original SE scale was found to be 0.70 ($N = 56$), based on test-retest method (Coopersmith, 1967). The Arabic version of the Self

Esteem Inventory (translated into Arabic by Lyla Abdulhafidh, 1984) was utilised in the present study. Abdulhafidh (1984, p. 27) reported a satisfactory reliability for the Arabic version of the Self Esteem Inventory. She obtained a test-retest reliability coefficient of 0.86 based on a sample of 65 subjects (with 3 weeks interval); and a split-half correlation of 0.80 based on 140 subjects.

The reliability of The Arabic version of the Self-Esteem Inventory was computed, in the present study, using test-retest method with two weeks interval. A reliability coefficient of 0.79 based on the data of a sample of 88 subjects was obtained.

Translation of Measures

Since the data of the present study was intended to be based entirely upon Saudi Arabian participants, whose mother tongue is Arabic, it was necessary to translate a number of measures, employed in this study, from their original English versions into Arabic.

The following five measures of guilt were translated for the first time, by the present investigator, into Arabic. The accuracy of translation was tested by three qualified judges. These measures were:

(**a**) The Mosher Hostility Guilt Scale (Mosher, 1985).

(**b**) The Mosher Morality Conscience Guilt Scale (Mosher, 1985).

(**c**) The Perceived Guilt Index (Otterbacher & Munze, 1973).

(**d**) Buss-Durkee Hostility-Guilt Subscale (Buss & Durkee, 1957).

The translation of these instruments was done with every effort made to keep the translation as literal as possible without being inconsistent with Arabic (Saudi) culture.

As the Guilt-Proneness Scale (GPS) was made available in English and Arabic versions, it was decided to test the appropriateness of the translation through external judgement. Two psychologists and a linguist, at King Saud University in Saudi Arabia, were asked to judge the quality of translation. They were presented, independently, with the five instruments along with their original English versions

and were asked to compare the items of the five instruments in their Arabic version to corresponding items in the English version.

The judges were asked to indicate their judgement of each item on a 2-point scale in which a *0* used to indicate "*poor level*", and a value of *1* used to indicate a "*satisfactory level*" of translation.

The results of this translation reliability assessment revealed that all the three judges agreed on 91% of translated items. The degree of agreement on each scale was as follows: The three judges agreed on 90.6% of items for the Mosher Guilt Inventory (64 items), 91.6% of the GPS items (60 items), 90.9% of the Perceived Guilt Index (11 items), and they agreed by 100% of items representing the Buss-Durkee Guilt subscale (9 items). Improvements in translation were then made to those items which had failed to gain full endorsement.

Discriminant Validity: The Relationship of GPS to a Measure of Social Desirability and Intelligence

One aspect of the construct validation of a scale involves the examination of relationships which should not exist under conditions of adequate test construction (Cohen, Swerdilk & Smith, 1992 [2nd ed.]; Kaplan & Saccuzzo, 1989; Kerlinger, 1986). Theoretical discussion of guilt-proneness does not predict a relationship between the guilt-proneness construct and social desirability. Gilbert (1989), Gilbert *et al.* (1994) suggested that guilt did not evolve from fear of rejection and need to create a good impression on others to elicit their approval, but rather from cooperative and caring behaviour.

Using the Mosher Guilt Scale, Dubeck, *et al.* (1971) and Mosher (1966, 1968) also demonstrated that the MGS did not relate to measures of social desirability. Moreover, existing literature relating to guilt-proneness and personality correlates does not reveal a relationship between measures of guilt-proneness and intelligence.

Thus it is the intention of the present study to examine the relationship of guilt-proneness, by means of the GPS, to measures of social desirability and intelligence. This investigation aimed at evaluating the discriminant validity of the GPS measure of guilt-proneness.

(a) Social Desirability:

A Pearson product-moment correlation coefficient of $r = 0.029$ was obtained by relating total guilt-proneness on the GPS to Marlowe-Crowne Social Desirability Scale (the Arabic version) for 80 subjects. The correlation coefficients between the Marlowe-Crowne SD and the three GPS subscales were also computed. These correlations are shown in Table 14.

Table 14

Pearson coefficients of correlation between Guilt-Proneness as measured by the **GPS** and Marlowe-Crowne Social Desirability Scale. $N = 80$ Ss.

Scale	Total Guilt	Religious-Related Guilt	Self-Oriented Guilt	Social-Related Guilt
Marlowe-Crowne ***SD*** *(Arabic version)*	0.029	-0.08	-0.013	0.14

The observed correlations between Marlowe-Crowne Social Desirability and the GPS subscales (Table 14) are very low. None of these correlations are significant, the Social-Related Guilt subscale was the most highly correlated with Marlowe-Crowne Social Desirability Scale, though at 0.14 even this scale shows little evidence of common variance with Social Desirability.

(b) Intelligence

A Pearson correlation coefficient between GPS total scores and scores on the Youth Intelligence Test (YIT; Zahran, 1976), based on the data of 78 subjects, was computed. A very low correlation coefficient of $r = 0.018$ was obtained. This is not significant. The Pearson correlation coefficients were also computed between the GPS subscales and scores obtained on the Youth Intelligence Test (based on the same 78 subjects). The correlation coefficients observed between the YIT and the subscales: religious-related guilt, self-oriented guilt, and social-related guilt are presented in Table 15.

Table 15

Pearson Correlation Coefficients between Intelligence as measured by the **YIT** (Zahran, 1976) and **GPS** subscales ($N = 78$).

GPS scales	**IQ**
Religious-Related Guilt	0.018
Self-Oriented Guilt	-0.15
Social-Related Guilt	0.05
Total Guilt	0.06

The correlation coefficients presented in Table 15 are low. None of these correlations are significant.

GPS Correlation with other Guilt Scales

The validity of the new guilt-proneness scale (GPS) was also investigated by examining the relationship between the GPS and other existing measures of guilt. The correlation between GPS and four guilt scales was computed. These scales are: (*a*) The Mosher Hostility Guilt Scale (Mosher, 1985). (*b*) The Mosher Morality Conscience Guilt Scale (Mosher, 1985). (*c*) The Perceived Guilt Index (Otterbacher & Munze, 1973). (*d*) Buss-Durkee Guilt Subscale (Buss & Durkee, 1957). All measures were administered in their Arabic versions. Pearson correlation coefficient was utilised in this analysis.

Table 16

Pearson Correlation Coefficients between the **GPS** and four existing Guilt Scales.

Scale	**HG**	**MG**	**BDG**	**PGI**
GPS	0.58** (*N* = 133)	0.43** (*N* = 133)	0.16 (*N* = 99)	0.29* (*N* = 73)

Note 1. ***GPS** = Guilt-Proneness Scale; **BDHG** = Buss-Durkee Guilt scale; **HG** = Mosher Hostility-Guilt scale; **MG** = Mosher Morality-Conscience Guilt scale; **PGI** = Perceived Guilt Index.*

Note 2. ** = $p < 0.001$
* = $p < 0.01$

As can be seen from Table 16, The GPS demonstrated a satisfactory correlation with the Mosher Hostility Guilt Scale, Mosher Morality Conscience Scale, but quite moderate correlation with the Perceived Guilt Index. Only weak and insignificant correlation was observed between the GPS and Buss-Durkee Guilt Subscale.

GPS Correlation with Measures of Related Constructs

One way of testing the validity of a construct is by examining its relationship with a construct or a group of constructs that share a common theoretical relevance with the construct in question (Cohen, Swerdilk, & Smith, 1992 [2nd edition]; Kaplan & Saccuzzo, 1989; Kerlinger, 1986; Nunnally & Bernstein, 1994).

Past literature has frequently indicated a positive relationship between excessive guilt feelings and depression (e.g., Catanzaro & Mearns, 1990; Leckman, Caruso, Prusoff, Weissman, Merikangas & Poul, 1984; El-Islam, 1968).

El-Islam (1968), for example, in his clinical investigation of Egyptian patients, found that 97 (61.78%) out of a sample of 157 depressed patients manifested guilt feelings; while 60 patients (38.2%) out of the total sample manifested low or no guilt feelings. Using the Mosher Guilt Scale (MGS), Persons (1970b) found the MGS to be modestly correlated with the MMPI depression scale (*D*). Persons reported correlation coefficients ranging from 0.20 to 0.26 ($p<.05$).

More recently, Catanzaro and Mearns (1990) have demonstrated a significant correlation between guilt, as measured by the guilt subscale of the Izard Differential Emotions (Izard, 1977), and the Beck Depression Inventory (BDI; Beck, *et al.*, 1979). Their reasoning was based on the evidence that depression is emotionally complex and includes the experience of negative emotions such as guilt and shame (Izard, 1977, Watson and Clark, 1984; Watson, Clark, and Tellegen, 1988). Based on two testing sessions, Catanzaro and Mearns reported a correlation

of 0.38, $p< 0.001$ between guilt and BDI for the first testing, and a correlation of 0.55, $p< 0.001$ for the second testing.

On the other hand, guilt has been found to be associated with low self-esteem (Fehr & Stamps, 1979a, 1979b; Epstein, 1972; Lindsay-Hartz, 1980; Mowrer, 1980). In their investigation of the construct validity of the Mosher Guilt Scales, Fehr and Stamps (1979a) hypothesised that the guilty person is unsure of his or her own actions and anticipated actions and consequently this would lead to a low level of self-esteem. Their results supported the existence of such a relationship. They found scores on self-esteem, as measured by the Coopersmith Self-Esteem inventory (Coopersmith, 1981) to be negatively correlated with sex guilt (r = -0.30, p = 0.05).

In another study, Fehr and Stamps (1979b) found the relationship between guilt and self-esteem to be consistent with their previous investigation. They reported a negative correlation between self-esteem and sex guilt (r = -0.38, p = < 0.01), and a negative correlation between self-esteem and morality-conscience guilt (r = -0.41, p = < 0.01). Fehr and Stamps (1979a) concluded that people who have high self-esteem would not be expected to question the appropriateness of their own conduct while the converse would be anticipated for those who are low in self-esteem. Accordingly, the following two hypotheses were established:

(*a*) Guilt-Proneness should demonstrate a positive correlation with depression.

(*b*) The correlation between guilt-proneness and self-esteem should be a negative one.

Furthermore, the relationship between depression and the three GPS subscales on the one hand, and self-esteem and GPS Subscales on the other, was examined.

Firstly, The relationship between guilt-proneness as measured by the GPS, and Depression as measured by the Arabic version of the Depression (*D*) subscale of the MMPI was investigated. Secondly, guilt-proneness as measured by the GPS was correlated with self-esteem as measured by the Arabic version of the Self-Esteem Scale (Coopersmith, 1981). Pearson product-moment correlation coefficient was employed in this analysis. The resulting correlation coefficients for total guilt, religious-related guilt, self-oriented guilt, and social-related guilt with depression, and self-esteem scores are presented in Table 17.

Table 17

Pearson Correlation Coefficients between the **GPS** and Depression and Self-Esteem.

Scale	**Depression**	**Self-Esteem**
Total Guilt	0.35 *** ($N = 82$)	-0.30 ** ($N = 80$)
Religious-Related Guilt	0.26 ** ($N = 82$)	-0.19 * ($N = 80$)
Self-Oriented Guilt	0.18 * ($N = 82$)	-0.27 ** ($N = 80$)
Social-Related Guilt	0.33 *** ($N = 82$)	-0.23 * ($N = 80$)

*** = $p < 0.001$
** = $p < 0.01$
* = $p < 0.05$

The observed correlation coefficients, shown in Table 17, are ranging from moderate to low in magnitude. However, all these correlation coefficients are statistically significant (p level ranges from $p< 0.001$ to $p< 0.05$).

In order to test for the possible causal effect of the variable self-esteem on the relationship of guilt to depression on the one hand, and the possible causal effect of depression on the relationship of guilt-proneness to self-esteem, on the other, partial correlation was used.

The partial correlation was computed between total guilt and self-esteem, controlling for depression. The observed partial correlation coefficient was -0.113, $N = 77$, $p = 0.321$ which is not significant. This clearly indicates that depression had only a negligible effect on the relationship between guilt and self-esteem. The observed correlation after controlling for depression did drop from -0.30 to -0.2276. However, the partial correlation coefficient is still significant ($p = < 0.044$).

Next, to investigate whether the observed positive relationship between guilt and depression was not largely mediated by the subjects' level of self-esteem, partial correlation was computed with the effect of self-esteem partialled out. Again, a positive correlation was observed with only small drop (partial $r = 0.323$, $p = < 0.004$). This indicates that when the possible effect of self-esteem on the relationship between guilt and depression was controlled, there was no deterioration in the correlation coefficient between the two variables.

The above analysis involving the use of partial correlation technique indicates that the observed positive correlation between guilt, as measured by the GPS, and depression is in line with existing theoretical assumptions and research findings (e.g., Catanzaro & Means, 1990; Persons, 1970b).

On the other hand, partial correlation analysis has demonstrated that the observed negative correlation between guilt and self-esteem was also in agreement with existing research findings which suggest a negative association between guilt and self-esteem.

Chapter Ten

Further Investigation of the Construct Validity of the GPS: Relationship of Guilt-Proneness to Verbal Conditioning

This Chapter concerns an experiment that has been conducted in an effort to investigate another aspect of the GPS construct validation. This experiment is focused on examining theoretical relationship and research findings that relate to guilt-proneness and verbal conditioning.

Conditioning of verbal behaviour has received a considerable amount of attention of experimental psychologists. Most of the investigators working in this field have followed a Skinnerian paradigm of operant conditioning, where the dependent variable is the subject's verbal behaviour and the independent variables are the generalised conditioned reinforcers employed to bring verbal behaviour under the experimenter's control.

Several researchers have concentrated on the study of the relationship between personality variables and verbal conditioning. For example, a number of studies have been conducted on personality dimensions of introversion-extroversion (Das & Mitra, 1962; Gupta & Shukla, 1989; Mohan & Claire, 1968), intelligence (Bass & Levkulic, 1985; Bass & Ninious, 1974; Meyer, Swanson & Kauchack, 1964; Schill, Kohn & Muehleman, 1968), neuroticism (Das & Mitra, 1962; Mohan & Claire, 1968; Timaeus, 1967), susceptibility to hypnosis (King & McDonald, 1974; Weiss, Ullmann & Krasner, 1960), Manifest anxiety (Campbell, 1960, Dixit & Sharma, 1971; Taffel, 1955), impulsiveness (Rai, 1989), and Machivellianism (Rai & Gupta,

1989). In most of these studies a social reinforcer has been utilised - namely the technique that was originated by Greenspoon (1955). This technique requires the subject to construct sentences, while the experimenter is to reinforce verbally selected class of these sentences by saying "good" and "mmm-hmm."

There is ample evidence that an experimenter can influence subjects' verbal behaviour so that the frequency of a class of responses emitted by the subjects will increase when the experimenter reinforces that class through the use of generalized conditioned reinforcers such as "good" and "mmm- hmm."

Krasner (1958) surveyed 31 studies in terms of setting, verbal responses, reinforcing stimuli, populations, controls, length of sessions, and relationships to personality variables. Rai (1989) has investigated the effects of impulsiveness on verbal conditioning, utilising the verbal conditioning method described by Taffel (1955). He reported that the effect of impulsiveness of subjects was highly significant ($F = 5.63$, df = 2, 81, $p = 0.01$). Rai concluded that the subjects in a low impulsive group conditioned most, while highly impulsive subjects conditioned least.

Bass and Ninios (1974) have investigated the relationship between verbal conditioning and subject's performance on WAIS. They reported that the IQ scores of verbally reinforced subjects were consistently and significantly higher than those of non-reinforced subjects.

The investigations which have related personality correlates to operant verbal conditioning have been primarily concerned with indicating the personality dynamics of a person who is most susceptible to the influence of social reinforcement.

The response class that has been reinforced has usually been "neutral" (i.e., without conflict) such as plural nouns or pronouns. Taffel (1955), in the first experiment to employ the completing sentence task in which subjects are presented with pronouns and verbs on a card and asked to select a pronoun and a verb and make a sentence, found that subjects scoring higher on the Taylor Manifest Anxiety Scale conditioned more readily than subjects scoring lower on the Taylor Manifest Anxiety Scale. Sarason (1958) investigated personality correlates of conditionability using therapists' ratings and personality as measures of the predictor variables. Patients rated by their therapists as "compliant" had a higher level of conditionability. His subjects who scored high on test anxiety and lack of protection scales conditioned more readily, whereas subjects who scored high on a defensiveness scale conditioned less readily, as predicted.

Weiss, Ullmann, and Krasner (1960) reported that subjects high on a measures of susceptibility to hypnosis devised by Weitzenhoffer and Hilgard (1959) were more responsive to verbal operant conditioning. These authors also reported a significant negative correlation between the achievement via independence subscale of the California Psychological Inventory and responsivity to operant verbal conditioning.

Crowne and Strickland (1961) have related the Marlowe-Crowne Social Desirability Scale, which is conceptualised as measuring a need for approval, to conditionability. Crowne and Strinckland demonstrated significant relationship between the Marlowe-Crowne Social Desirability Scale and an increase in the emission of plural nouns as a function of the verbal reinforcement "mmm-hmm."

In relating guilt to conditionability, Knott, Lasater and, Shuman (1974) conducted a study in which they exposed the subjects to two experimental conditions: reinforcement for aggressive responses and reinforcement for non-aggressive responses. They found that low-guilt subjects emitted more aggressive responses than high-guilt subjects. Mosher (1966b) examined the relationship of guilt-proneness to verbal conditioning. He demonstrated that subjects who score high on total guilt-proneness (as measured by the MGS) are more likely to be conditioned to 'superego verbs' in verbal operant conditioning task than subjects low on total guilt-proneness. The results reported by Mosher indicated a significant difference between the high ($N = 26$) and low ($N = 27$) guilt-prone subjects ($F = 3.99$, df = 51, $p < 0.05$).

In summary, the individual believed to be most responsive to verbal operant conditioning might be described as anxious, compliant, suggestive, dependent and guilt-prone person. The individual who is believed to be most resistant to conditioning might be described as impulsive, independent, having low guilt-proneness, and possibly hostile.

On the basis of these findings I designed a verbal conditioning experiment based on Taffel Sentence Completion Task (Tafell, 1955).

Hypothesis

It was hypothesised that subjects who score high on a measure of total guilt-proneness as measure by the GPS would increase the frequency of reinforced responses involving religious-related content more readily than subjects who score low on a measure of total guilt-proneness. By religious-related content we mean expressions related to worshipping, forgiveness, regretfulness, and morality. A list of these verbs is found in *Appendix* **R**.

Method

Subjects

Forty three first year university students voluntarily took part in this experiment. All subjects were enrolled in various courses at King Saud University in Riyadh. They ranged in age from 19 to 24 years. They were selected from a larger group of students who took the GPS (65 Ss). The selection of this group was based on their scores on the GPS i.e., high or low. This grouping of subjects was based on the median split criterion. There were 21 subjects in the high-guilt group and 22 subjects in the low-guilt group.

Measures and Materials

The refined 37-item GPS scale was used for the assessment of guilt-proneness. The verbal conditioning material used in this experiment consisted of sixty 3" X 5" white unlined cards. Two pronouns, **I**, **WE**, and two verbs in the past tense were typed in Arabic on each card. The pronouns were placed in a random order at the top of the card, where the verbs were randomly ordered and located on the lower portion of the card. A list of these verbs is found in *Appendix* **R**.

Procedure

The subjects took the GPS in small groups. The GPS was scored according to the procedure outlined in the scoring manual (*Appendix* A). For the verbal conditioning task, the subjects were tested individually. After establishing rapport with the subjects, the task was explained to them. " I will show you some cards like this (one spaceman card is shown by the *E*). Each card will have two words on the top and two words on the lower portion of the card. Your task is to make up a sentence in the past tense containing one word from the top and one word from the lower part of the card. " Before showing the experimental cards, one sample card was given to the subjects in order to check that they had followed the task. The cards were shown one by one. Each group of ten cards was shuffled after each subjects' performance. The order of the six groups of ten cards was also randomised.

Results

It was hypothesised that subjects who score high on a measure of total guilt would condition more readily to religious-related content than subjects who score low on a measure of total guilt. total guilt was calculated as the sum of scores for the three Guilt-Proneness subscales for each subject.

Block I consisted of 10 non-reinforced trials and was used to calculate each subject's initial operant level. The last five blocks of 10 trials were the reinforced trials. A count of the number of religious-related verbs used in each block of 10 trials were made.

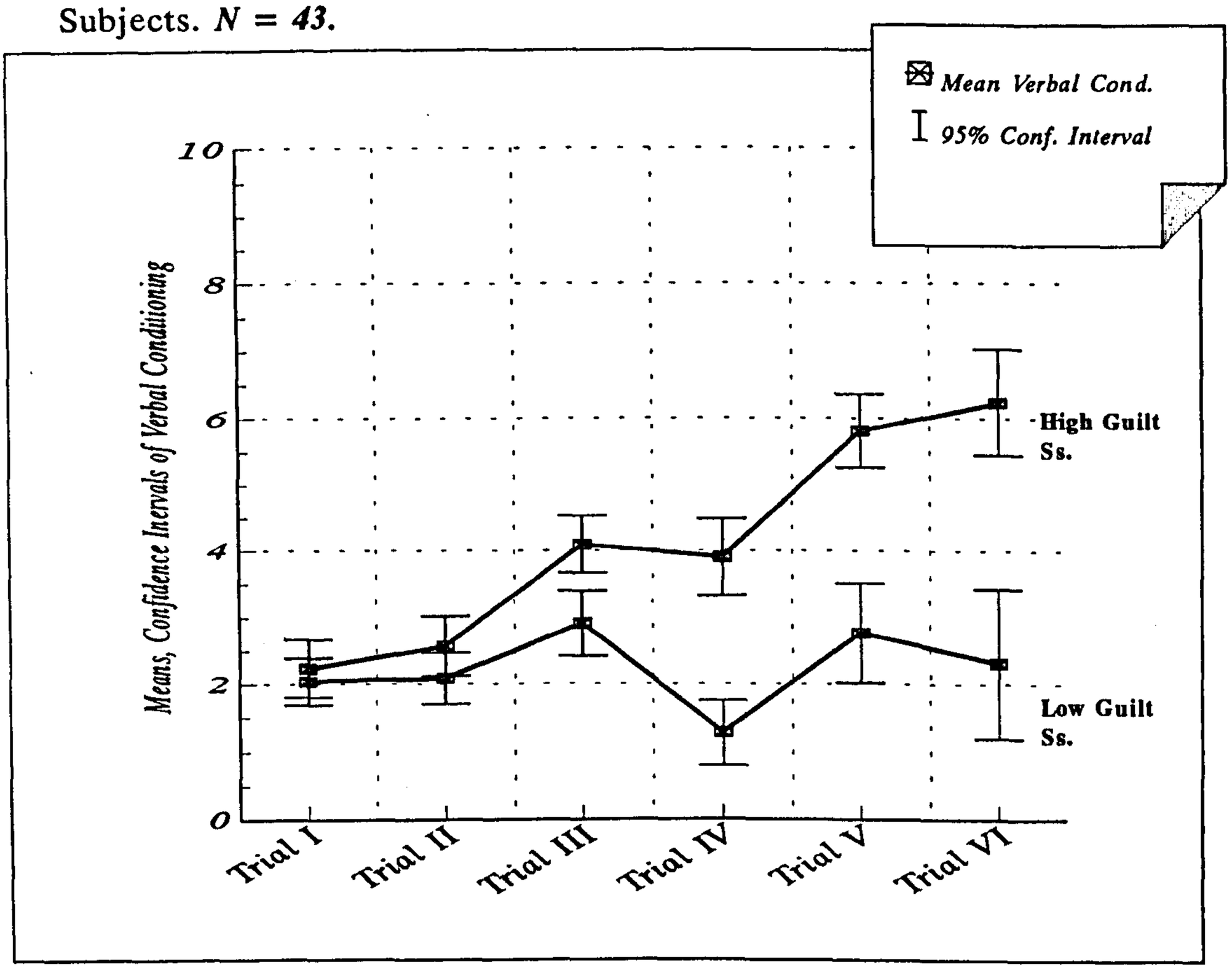
Table 18 contains the mean for the occurrences of religious-related verbs in the six block of 10 trials for all subjects, for the high guilt subjects, and for low guilt subjects. Figure 10 shows the conditioning curves for the high and low guilt-prone subjects.

Table 18

The means of the number of Religious-Related verbs used in each block of trials for the total subjects, high-guilt group and low-guilt group.

Subject Group	Block I	Block II	Block III	Block IV	Block V	Block VI
Total Guilt Ss. *(N = 43)*	2.14	2.32	3.48	2.55	4.25	4.23
High Guilt Ss. *(N = 21)*	2.23	2.57	4.09	3.9	5.81	6.23
Low Guilt Ss. *(N = 22)*	2.04	2.09	2.9	1.27	2.77	2.31

FIGURE 10 Mean verbal conditioning scores and 95% confidence interval for the high and low guilt-prone Subjects. *N = 43.*



Note. Each mean trial plotted on the X axix represents the mean of a block of 10 trials.

In order to adequately test the hypothesis, conditioning should occur. A *t*-test was computed between subjects' scores on block **I** and Block **VI**. The *t* value ($t = 16.29$) is highly significant ($p < 0.0001$) with 40 degrees of freedom, which indicates that there is a significant increase in the use of religious-related verbs from block **I** to Block **VI** for the total group of subjects.

To test the hypothesis that there is a differential amount of conditioning for the high and low guilt groups, a conditioning differences score was computed for each subject by subtracting his frequency of usage of religious-related verbs in Block **I** (operant level) from his frequency of usage of religious-related verbs in Block **VI** (the last 10 conditioning trials).

A *t*-test for the significance of the difference between the mean conditioning difference scores for the high guilt group and low guilt group yield a $t = 4.08$ which is significant at the 0.001 level with 40 degrees of freedom. This *t*-test indicates that subjects who score high on the three guilt scales condition to religious-related verbs more readily than subjects who score low on the guilt scales.

A more sensitive test of the hypothesis resulted from the application of an analysis of variance test. This test considered the difference between each S's operant level (Trial I) and each of the five block of reinforced trials.

Conditioning difference between the subject's operant level (Block I) and each of the five reinforced trials was computed as follows:

Block II – Block I

Block III – Block I

Block IV – Block I

Block V – Block I

Block VI – Block I

A *mixed design* analysis of variance for repeated measurements on the same Ss for the two groups (high and low guilt-proneness Ss.) was computed. The results of this analysis are presented in Table 19.

Table 19

Analysis of Variance test of the differences between the High and Low guilt-proneness subjects

Source of Variation	**SS**	**DF**	**MS**	*F*	*p*
Within cells	296	23	164.00	1.81	
Trials	123.27	4	30.82	17.06	< 0.001
Group by Trials	78.71	4	19.68	10.89	< 0.001

Note. ***SS*** *= Sum of Square;* ***DF*** *= Degrees of Freedom;* ***MS*** *= Mean Square.*

The analysis of variance indicates that the high guilt subjects have significantly higher difference score than do the low guilt subjects. Further, the analysis of the interaction of groups (high *vs.* low guilt Ss) by trials (block of 10 conditioning trails) also shows that the high guilt group emitted religious-related verbs at a significantly higher frequency than the low guilt group.

To see whether conditioning curves during each block of 10 trials follows a linear trend, a test for trend for the conditioning curves for the total Ss, high, and low guilt group was computed. The results derived by the trend analysis for the conditioning curves indicates that conditioning for the total Ss has a significant linear trend ($F = 22.29, p< 0.001$). However, when a separate trend test was used for the high and low guilt groups, a linear trend was only found to be significant for the high guilt group ($F = 28, p< 0.001$).

Level of Awareness

While the hypothesis of this study does not necessitate that the increase in the emission of religious-related verbs be independent of conscious awareness, it seemed desirable to secure some estimation of the level of awareness of the subjects. The measure of awareness involved rating the subject's responses to post-conditioning questions (*Appendix* J). These post-conditioning questions were intended to identify subjects who were noticing the reinforcer's pattern or who had correctly identified the reinforced response class.

The subjects were placed in three categories by three independent raters. The three categories represented three different levels of the subject's awareness: (*a*) Fully aware, (*b*) Partially aware, (*c*) Unaware. The three raters agreed on placing 93.02 % of the subjects in the same category.

The analysis of variance compares the effect of the three levels of awareness on a conditioning score computed by subtracting the subject's operant level on the first block of 10 non-reinforced trials from the number of times religious-related verbs were used in the final block of 10 reinforced trials. Table 20 contains the results of this analysis.

Table 20

Analysis of Variance of the effect of level of awareness on the conditioning of religious-related verbs. $N = 43$

Source of Variation	df	MS	*F*	*p*
Between Groups	2	0.49	0.13	n.s.
Within Groups	41	3.87		

Note. ***DF** = Degrees of Freedom; **MS** = Mean Square.*

An examination of the results of the *F* test indicates that the effect of awareness is not significant; in fact, the error variance is greater than the variance attributable to the grouping of subjects on the basis of levels of awareness during conditioning.

This result indicates that the difference between the high and low total guilt groups in the increase in mean usage of religious-related verbs is not simply an artefact of greater awareness of the high total guilt subjects.

Religious-related Verbs and Social Desirability

The subjects' scores on The Arabic version of the Marlowe-Crowne Social Desirability Scale (Kafafy, 1984) were compared to a conditioning difference score obtained by subtracting the frequency of usage of religious-related verbs in Block **I** from Block **VI** for each subject.

The subjects were classified as high and low on the Social Desirability Scale. A *t*-test was utilised for examining the effect of social desirability on the level of conditioning (Block **VI** *minus* Block **I**). The difference in conditioning scores of high-guilt and low-guilt subjects was not significant ($t = 1.10$, df: 37, $p < 0.28$).

Summary and Conclusions

Further evaluation of the validity of the GPS has been performed by examining the effect of guilt-proneness on reinforcement value: an experiment involving verbal conditioning task was conducted. This experiment was based on Taffel's verbal conditioning task (Taffel, 1955). Mosher (1966, 1968) employed the verbal conditioning task (VCT) in investigating the effect of guilt in the selection of responses where he found a significant effect for guilt-proneness as an influence on the level of conditioning of particular of verbal content (i.e., hostile and moral contents).

The results of the experiment conducted in the present study, as derived by Analysis of Variance, have indicated that the high guilt subjects showed significantly higher mean scores than did the low guilt subjects. Further, the analysis of the interaction of groups (high *vs.* low guilt Ss) by trials (block of 10 conditioning trials) has also shown that the high guilt group emitted religious-related verbs at a significantly higher frequency than the low guilt group. As discussed by Crowne and Strickland (1961), the operant verbal conditioning may, in some instances, be influenced by two interfering factors. First, the social desirability associated with particular type of content being reinforced, second, the rate of conditioning of verbal content could be influenced by high awareness in part of the subject. These two factors have been taken into consideration and have been evaluated for their possible influence on the observed results.

Analysis of variance has indicated that the effect of awareness is not significant. In addition, no significant relationship was found between scores on the Arabic

version of the Marlowe-Crowne Social Desirability Scale and rate of conditioning of religious-related verbs. Thus, the role of guilt in mediating the rate of conditioning of religious-related verbs is evident at least with no direct influence by either social desirability or high awareness factors.

Chapter Eleven

Confirmatory Factor Analysis of the GPS Using Structural Equation Modelling

Purpose

The exploratory factor analysis of the Guilt-Proneness Scale (reported in Chapter 7), has indicated a three-factor model for the GPS. The aim of the analyses to be reported in this Chapter was to test the replicability of the GPS three-factor model with a fresh sample of respondents. Since the exploratory factor analysis of the GPS was mainly based on the data junior high school pupils and university students, it was decided furthermore to test the generalisability of the three-factor model by including, in the present analysis, data from individuals, varying in their occupation.

Use of Structural Equation Modelling

Although statistical techniques such as the Scree test and factor correlation across different studies can provide a useful indication of the quality of a factor structure under investigation, they are, in most instances, much less informative as to the goodness-of-fit of a particular factor structure. Therefore, a more advanced technique has been utilised, in the present study, in order to allow for a further investigation and evaluation of the quality and appropriateness of the GPS three-factor model.

Structural equation modelling (SEM) has recently become one of the most effective multivariate statistical methodologies for data analysis (Bentler, 1987; Dunn, Everitt and Pickles, 1993; Raykov, Tomer, and Nesselroade, 1991). SEM provides the possibility of fitting, and evaluating the fit, of specified theoretical models to empirical data. This technique has been employed in many fields, including studies of personality measurement, and in clarifying issues in the study of social behaviour (e.g., Aneshensel and Huba, 1983; Bentler, 1987; Charles *et al.,* 1986; Huba and Bentler, 1984; Tanka and Huba, 1984).

Recently, SEM procedures have been translated into computer programs which facilitate and accelerate computation. The current versions of the frequently used structural equations programs: EQS, AMOS, and LISREL, offer in addition to solutions, various indices reflecting model fit and a considerable amount of information concerning the numeric routines on which these programs rest.

The basic assumption involved in confirmatory factor analysis models is that *particular* observed variables will be expected to be indicators of, or equivalently, will load on *particular* factors (see, e.g., Bentler, 1988, 1993; Dunn *et al.,* 1993).

In the current study, data analyses were mainly based on the employment of the EQS program (Bentler, 1993). The AMOS program (Arbuckle, 1994) was also utilised in order to provide double-checking on model estimation procedures.

With regard to examining the three-factor model of the GPS which have been revealed in our previous analyses, it was assumed that if the three-factor model of the GPS were to reflect the real nature of the covariance and variance among the

GPS items, it should demonstrate an acceptable level of goodness-of-fit to a fresh sample, as tested by SEM.

Structural equation techniques based on the use of EQS (or other SEM programs) have frequently been carried out with relatively small number of variables (3-13), but the use of a large number of variables has not been yet demonstrated in previous research. In fact, as the number of variables to be analysed increases, the process of setting up an EQS job becomes more complicated and can result in technical problems (e.g., the amount of required RAM becomes inconveniently high and the required execution time will also increase). Moreover, with a larger number of variables, it may become impossible to draw a recognisable presentation, such as path diagram, of a model under investigation. Having borne this in mind, it was decided to adopt an alternative, but to a large extent equivalent, technique to the single item analysis. This technique is known as factored homogenous item dimensions FHIDs, developed by Comrey (1970), and Cattell (1974). It involves grouping a large number of variables (scale items in this case) into parcels of homogenous items. These homogenous parcels or clusters of items are subsequently submitted to the desired analysis. Comrey (1970) has outlined the way in which scale items can be transformed into parcels of homogeneous single items. He writes:

"A total score variable calculated by summing scores over several items which must meet two criteria: (a) the items were specifically conceived and logically conceptualized as measures of the particular variables under consideration, and (b) in empirical studies, the items have been found to define an item factor in factor analysis of items. Through the satisfaction of this dual criterion, it is established that the items constituting FHID have both conceptual and empirical homogeneity." (Comrey, 1970, p. 12).

Cattell (1974) has discussed the use of factor analysis based on items vs. factor analysis based on parcels of items, where Cattell argued strongly for the use of parcels of items concluding that either method will yield essentially the same results. Cattell also pointed out that the homogeneity criteria should be employed in the process of parcelling items as he rejects the value of any parcelling based only on arbitrary grouping of items (e.g., parcelling items in the grounds that they represent similar content). In addition, Cattell argues that parcelling would be of no value if items were deliberately chosen or if parcels were formed with less than two items. In attempt to enhance procedure of parcelling method, Cattell (1963, 1974) introduced the so-called radial parcelling method. However, as noted by Barrett and Kline (1981), radial parcelling is hardly used by any researchers and does not appear to have any advantages over that of Comrey's, provided that homogeneity of items is considered carefully in the latter.

In a psychometric study of the 16PF, Burdsal and Vaughan (1974) compared the factor structure as derived by analysis of scale items with the factor structure that was based on parcels of items. The authors based their analysis on data gathered from a total of 264 participants. The conclusion was that parcel factoring resulted in producing essentially the same factor structure as that derived by item factoring.

In the present study, therefore, the item parcelling method FHIDs of Comrey (1970) was employed.

Method

Sample

The total number of individuals who participated in this study as subjects was 446. They were males, ranged in age from 17 to 48 years (Mean = 26.22). Their educational level ranged from secondary school to college. All the subjects agreed to be tested voluntarily and with no obligation. Due to some incomplete data, the data of 13 subjects had to be excluded from the statistical analysis. All subjects who participated in this study were of Saudi citizenship. The occupational status of subjects is described in Table 21.

Table 21

Distribution of Subjects by Occupation

Occupation	No. of Subjects	per cent
Clerk	156	36.03%
Teacher	33	7.62%
Self-employed	38	8.77%
Student	206	47.57%
Total	**433**	100%

Measures

The materials utilised in this study were as follows:

The refined 37-item Guilt-Proneness Scale (GPS) with a covering page containing instructions (*Appendix* **A**), pencils, and a General information sheet used to gather information about the subject's age, educational level, and occupation (*Appendix* **K**).

Procedure

The present investigator made the necessary arrangement with the authority at the Centre for Continuing Education in Riyadh. The administration of the GPS was done in small groups (12-22 approx.) in training rooms at the Centre. Prior to administering the GPS, the investigator explained briefly the importance of this study and asked the subjects to participate. Although the written instructions accompanied the GPS were made clear and simple, the investigator read out these instructions to the subjects. The process of gathering the data was completed over a period of three weeks.

Parcelling Method

Parcelling procedures employed in the present data analysis were essentially based on the FHIDs parcelling method described by Comrey (Comrey, 1970).

This involved an initial provisional grouping of items within each subscale of the GPS. Two criteria were used at this stage. First, items were included in a given

group if they appeared to represent a common content. For example, in the Religious-Related Guilt subscale of the GPS, items that have something to do with guilt over negligence in religious duties would be placed in the same group. Similarly, items that relate to guilt over acts that relate to religious values would be placed in a new group and so on. Second, each parcel should, at least, contain 3 items (as suggested by Comrey, 1961, 1970; and Cattell, 1974). This preliminary grouping of items was done in the same manner for all items in the three GPS scales. The final grouping of items, at this stage, resulted in nine parcels.

These nine parcels along with the corresponding number of GPS items are displayed in Table 22 .

Table 22

A list representing nine parcels (groups of homogeneous **GPS** items), along with the items that were included in each of these parcels.

Parcel	**Items included in each parcel**	**No. of Items**
Parcel 1	6, 10, 14, 34.	4
Parcel 2	20, 22, 23, 26.	4
Parcel 3	24, 27, 36.	3
Parcel 4	1, 12, 15, 35.	4
Parcel 5	2, 5, 13, 17.	4
Parcel 6	8, 9, 16.	3
Parcel 7	2, 11, 18, 19, 21.	5
Parcel 8	25, 28, 31, 33, 37.	5
Parcel 9	3, 7, 29, 30, 32.	5

The next step, was running a principal components analysis on each single parcel. This was a necessary step for examining: first, whether items included in a given parcel would be explained by a single common factor. Second, it would be possible, with this procedure, to examine the homogeneity of items in terms of both direction and magnitude of factor loadings.

The results of the principal components analyses of each parcel indicate that, according to the Scree test, magnitude of factor loadings and eigenvalues, each parcel can be reasonably explained by one common factor. For each of the nine parcels, only the first factor had an eigenvalue >1 and in the seven parcels comprising more than 3 items the scree was fairly linear from Factor 2 onwards. The Scree tests, as well as a factor loading associated with each GPS parcel are presented in *Appendix* O.

Results of Structural Equation Modelling

As the subjects who participated in the present investigation could be divided, according to their occupation, into two main groups: as non-students (N = 227 Ss.) and students (N = 206 Ss.), the data of each subject group were analysed separately. In the upcoming SEM analysis, these two groups are referred to as Sample One (non-students), and Sample Two (students).

To analyse the data of Sample One and Sample Two, through the SEM method, two EQS input programs, for analysing the 9 X 9 correlation matrix of the nine GPS parcels of items, were set up. The EQS input program, in each analysis, contains nine measurement equations (see, *Appendix* **Q.1** *&* *Appendix* **Q.2**).

In each equation a factor regression coefficient (factor loading) was set to be freely estimated and was assigned a starting value of one. Each equation contains a predicted latent variable (factor) and an error term associated with it. The variances of the predicted factors: Factor **I**, Factor **II**, and Factor **III** were fixed to be one while the variances of the error terms were set to be freely estimated. The three predicted factors were also allowed to correlate.

It was predicted that GPS *parcel* 1 to *parcel* 3 would be indicators of Factor **I**, *parcel* 4 to *parcel* 6 would be indicators of Factor **II**, and *parcel* 7 to *parcel* 9 would be indicators of Factor **III**.

In this analysis, GPS parcel 1 to GPS parcel 9 were considered as the observed dependent variables while Factor I, Factor II, and Factor II were treated as unobserved independent variables. The error terms: E1 to E9 were also treated as independent unobserved variables. No constraints were specified in this analysis.

Since the frequency distribution of the GPS item scores did not show any substantial discrepancy from a normal distribution, Maximum Likelihood estimation method was used.

(a) SEM Analysis of GPS for Sample One

Table 23.1

Chi-squared goodness-of-fit test and other fit indices, derived by Structural Equation evaluation of the **GPS** 3-factor model. $N = 227$ Ss.

Goodness of fit summary
Chi-squared = 26.482 based on 22 degrees of freedom
Probability value = 0.231
Other fit indices:
Bentler-Bonett Normed Fit Index (NFI) = 0.974
Bentler-Bonett Non-Normed Fit Index (NNFI) = 0.993
Comparative Fit Index (CFI) = 0.995

Table 23.2 Standardised Solution

GPARCEL1=V1	= 0.862*F1	+ 0.508 E1	
GPARCEL2=V2	= 0.878*F1	+ 0.478 E2	
GPARCEL3=V3	= 0.782*F1	+ 0.132*F3	+ 0.572 E3
GPARCEL4=V4	= 0.097*F1	+ 0.807*F2	+ 0.565 E4
GPARCEL5=V5	= 0.815*F2	+ 0.580 E5	
GPARCEL6=V6	= 0.777*F2	+ 0.629 E6	
GPARCEL7=V7	= 0.810*F3	+ 0.586 E7	
GPARCEL8=V8	= 0.862*F3	+ 0.507 E8	
GPARCEL9=V9	= 0.757*F3	+ 0.653 E9	

The result of goodness-of-fit test on Sample 1 (Tables 23.1 and 23.2) yielded a chi-squared of 26.482 with 22 *df*. The probability value for this chi-squared is well below any conventional level of significance indicating that the evaluated GPS three- factor model fit the data very well. Thus the model cannot be rejected, that is, it is accepted as an adequate description of the data. Furthermore, other fit indices provided by EQS also demonstrate substantial further support for the goodness of fit of the GPS factor model. This was evidenced by high fit index coefficients obtained by the Bentler-Bonett Normed Fit Index (0.974), Bentler-Bonett Non-Normed Fit Index (0.993), and Comparative Fit Index (0.995).

(*b*) SEM Analysis of GPS of Sample Two

Table 24.1

Chi-squared goodness-of-fit test and other fit indices, derived by Structural Equation evaluation of the **GPS** 3-factor model. $N = 206$ Ss.

Goodness of fit summary
Chi-squared = 37.660 based on 26 degrees of freedom
Probability value = 0.0651
Other fit indices:
Bentler-Bonett Normed Fit Index (NFI) = 0.965
Bentler-Bonett Non-Normed Fit Index (NNFI) = 0.984
Comparative Fit Index (CFI) = 0.989

Table 24.2 Standardised Solution

GPARCEL1=V1	= 0.731*F1	+ 0.683 E1	
GPARCEL2=V2	= 0.862*F1	+ 0.506 E2	
GPARCEL3=V3	= 0.923*F1	+ 0.384 E3	
GPARCEL4=V4	= 0.124*F1	+ 0.837*F2	+ 0.503 E4
GPARCEL5=V5	= 0.876*F2	+ 0.482 E5	
GPARCEL6=V6	= 0.813*F2	+ 0.582 E6	
GPARCEL7=V7	= 0.799*F3	+ 0.601 E7	
GPARCEL8=V8	= 0.904*F3	+ 0.427 E8	
GPARCEL9=V9	= 0.805*F3	+ 0.594 E9	

Shown in Table 24, is a summary of the goodness of fit tests for Sample 2. It can be seen that as indicated by the observed chi-squared, the GPS three factor model provides a very good fit to the data, even though it is slightly less good than we saw for Sample 1. The probability value for this chi-squared was not significant ($\chi^2 = 37.66$, df = 26, $p = 0.0651$). Thus the model is acceptable as an adequate description of the data.

Furthermore, the other fit indices also demonstrate a substantial support for the goodness-of-fit of the GPS three factor model. This can be observed in the Bentler-Bonett Normed Fit Index (0.974), Bentler-Bonett Non-Normed Fit Index (0.993), and Comparative Fit Index (0.995).

Testing covariance matrices of Sample One and Sample Two

In the above analysis, the GPS three-factor model has been clearly replicated through the evaluation of goodness-of-fit on the data of both the first sample ($N = 227$) and second sample ($N = 206$). In the light of these results, it was decided to investigate whether the GPS model would still demonstrate a good fit if data from both sample were pooled (i.e., total N would be 433).

Dunn *et al.* (1993) have outlined a two-group structural equation testing procedure based on the use of EQS for evaluating the equality of two correlation and covariance matrices from independent samples. This technique involves setting up an EQS input program in which some parameters are fixed to be equal across groups. Each observed variable, in this technique, has its own factor, and does not have an error term (e.g., each equation would appear in this form: V1 = *F1;). In

addition, the variance of each *F* variable is fixed at unity, but the covariances of each pair of *F* variables are free parameters (full details of this procedure are found in Dunn, Everitt and Pickles, 1993, pp. 134-138).

To evaluate the equality of the covariance matrices of the two samples in the present study, we have employed the testing method as explained in Dunn *et al.* (1993). However, since the testing procedure would involve specifying a substantial number of cross-group equality constraints, the recent program EQSCORR (Downing, 1994) was used to facilitate the process of setting up the EQS input program necessary for the analysis. The resulting EQS input job is shown in *Appendix* **Q.3**.

(*c*) SEM Analysis: Testing covariance matrices of Sample One and Sample Two

Table 25

Evaluating equality of covariance matrices of two samples of subjects: Chi-squared test of goodness-of- fit, derived by Structural Equation. *N* for sample One = 227 Ss., *N* for sample Two = 206 Ss.

Goodness of fit summary
Chi-squared = 60.819 based on 45 degrees of freedom Probability value = 0.05787 Other fit indices: Bentler-Bonett Normed Fit Index (NFI) = 0.971 Bentler-Bonett Non-Normed Fit Index (NNFI) = 0.987 Comparative Fit Index (CFI) = 0.992 GLS Method: Chi-squared = 55.227, df = 45, $p = 0.141$

The results displayed in Table 25 based on a Maximum likelihood analysis, yielded a chi-squared of 60.819 with 45 *df*. The probability value is $p = 0.0578$ which falls below the acceptable level of statistical significance. However, when the Generalized Least Squared method was applied, in a separate analysis, in the structural equation evaluation of the two matrices, a smaller chi-squared with a substantially low probability value was observed ($\chi^2 = 55.227$ df = 45, $p = 0.141$). These chi-squared values and their associated probability values indicate clearly that the difference between the two covariance matrices of the two sample groups is of less statistical effect. Thus these two matrices can safely be pooled to give in one single-population sample matrix. A structural equation modelling analysis involving the evaluation of the GPS model, based on the pooled matrix (i.e., N = 433), will be presented in the next section.

Confirmatory factor analysis of the three-factor model, using structural equation modelling, for 433 subjects.

Having established that according to the statistical evaluation, based on the use of structural equation modelling, the two covariance matrices of the two sample groups do not differ, it becomes of interest to investigate the GPS factor model for the combined matrix, based on pooling data from the two groups.

It was postulated that the covariances between the GPS parcels of items (observed variables) arise from their relationships to three underlying latent variables. Furthermore, it was predicted, as before that GPS *parcel* 1 to *parcel* 3 would be indicators of Factor **I**, *parcel* 4 to *parcel* 6 would be indicators of Factor **II**, and *parcel* 7 to *parcel* 9 would be indicators of Factor **III**. These hypotheses are embodied in the EQS job shown in *Appendix* **R**. The results of the goodness-of-fit evaluations of the GPS fitted model are displayed in Tables 26.1, 26.2 and Figure 11.

(*d*) SEM Analysis of GPS of a Combined Sample, N = 433 Ss.

Table 26.1

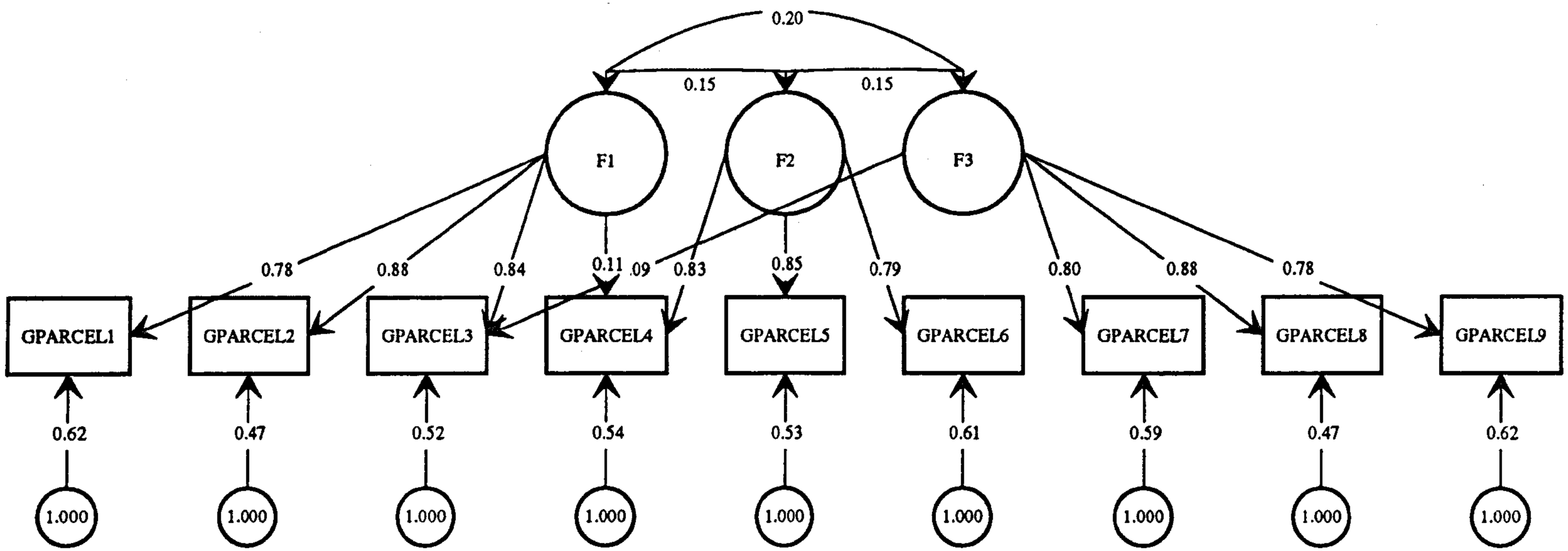
Chi-squared goodness-of-fit test and other fit indices, derived by Structural Equation evaluation of the GPS 3-factor model. *N* = 433 Ss.

Goodness of fit summary
Chi-squared = 36.432 based on 25 degrees of freedom
Probability value = 0.0653
Other fit indices:
Bentler-Bonett Normed Fit Index (NFI) = 0.982
Bentler-Bonett Non-Normed Fit Index (NNFI) = 0.992
Comparative Fit Index (CFI) = 0.994
GLS method: Chi-squared = 35.06, df = 25, *p* = 0.0871

Table 26.2 Standardised Solution

GPARCEL1=V1	=	0.784*F1	+ 0.621 E1	
GPARCEL2=V2	=	0.881*F1	+ 0.472 E2	
GPARCEL3=V3	=	0.836*F1	+ 0.091*F3	+ 0.512 E3
GPARCEL4=V4	=	0.108*F1	+ 0.821*F2	+ 0.537 E4
GPARCEL5=V5	=	0.849*F2	+ 0.529 E5	
GPARCEL6=V6	=	0.789*F2	+ 0.614 E6	
GPARCEL7=V7	=	0.805*F3	+ 0.593 E7	
GPARCEL8=V8	=	0.884*F3	+ 0.468 E8	
GPARCEL9=V9	=	0.783*F3	+ 0.621 E9	

FIGURE 11 PATH DIAGRAM REPRESENTING STRUCTURAL EQUATION MODELLING OF THE GPS: CONFIRMATORY FACTOR ANALYSIS (N = 433 Ss).



Chi-Square= 36.432
D.F. =25
P value = 0.065
B.B. NFI = 0.982
B.B. NNFI = 0.992
CFI = 0.994

Standardized solution

The result of goodness-of-fit test (Table 26.1) yielded a chi-squared of 36.432 with 25 *df*. The probability value for this chi-squared did not reach a statistical significance, demonstrating that the evaluated GPS three-factor model, based on the data of all 433 Ss, fits the data well. Thus, the model is acceptable as an adequate description of the data. Moreover, the other fit indices provided by EQS also demonstrate a substantial support for the goodness of fit of the GPS factor model. This is evidenced by very high fit index coefficients obtained by the Bentler-Bonett Normed Fit Index (0.982), Bentler-Bonett Non-Normed Fit Index (0.992), and Comparative Fit Index (0.994). The results of chi-squared test and the NFI were based on the employment of Maximum Likelihood method which assumes normal distribution the variable scores. However, the Generalized Least Squares method (GLS), which is appropriate for use with non-normally distributed variables (see, e.g., Bentler, 1988, 1993), is used a less significant probability value for the chi-squared is observed. The chi-squared value derived by the GLS method was 35.06 with 25 df, $p = 0.0871$. This shows that the good fit of the 3-factor model is not dependent upon particular assumptions about the skewness or kurtosis of scores on the item parcels.

Additional Analysis Involving the Use of AMOS Program

This 3-factor model of guilt-proneness was also evaluated by an independent structural equation modelling program: AMOS (Arbuckle, 1994). The results derived by AMOS estimation of the GPS three-factor model demonstrate high consistency with those based on EQS. As shown in Table 27, analysis of the GPS model based on AMOS produced a chi-squared of 33.245 with 25 degrees of freedom. Again the observed probability value associated with this chi-squared did not reach a statistical significance.

(*e*) AMOS Estimation of the GPS Model

Table 27

Chi-squared goodness-of-fit test and other fit indices that were derived by Structural Equation evaluation of the **GPS** 3-factor model. The analysis of the model was estimated by AMOS. $N = 433$ Ss.

Goodness of fit summary
Chi-squared = 33.245
Degrees of freedom = 23
Probability level = 0.077
Other fit indices
Delta-1 Bentler -Bonett = 0.984
rho-1 Bollen (1986) = 0.974
Delta-2 Bollen (1989) = 0.995
rho-2 Tucker-Lewis = 0.992

Testing the Reliability of the GPS scales with the new sample

The reliability of the 37-item GPS scales was assessed, in two ways. First, internal consistency was assessed, using Cronbach's alpha, for the combined sample (N = 433 Ss.). Second, test-retest reliability, using Pearson correlation, was evaluated in a subsample of 84 subjects, who were trainees at the Centre of Continuing Education in Riyadh. The retest was conducted with these subjects, two weeks after their initial testing. Reliability coefficients that were derived by the two reliability techniques, are shown in Table 28.

Table 28

Cronbach alphas as well as test-retest reliability correlation coefficients for the **GPS** (total guilt) and for the subscales: Religious-Related Guilt (**RG**), Self-Oriented Guilt (**SG**), and Social-Related Guilt (**SOG**).

Scale	**Internal Consistency** (N = 433)	**Test-retest** (N = 84)
Religious-Related Guilt	0.86	0.81
Self-Oriented Guilt	0.82	0.73
Social-related Guilt	0.85	0.77
Total Guilt	0.84	0.83

As shown in Table 28, both methods of assessing the reliability of the GPS scales, demonstrate very satisfactory results.

Summary and Conclusions

In an effort to examine the goodness-of-fit of the three factor model of guilt-proneness, as measured by the GPS, in new sample groups, including non-student subjects, a confirmatory factor analytic study was conducted. The data gathered from two samples which comprised: 227 non-student participants and 206 university students, were analysed using Structural Equation Modelling through the medium of EQS program (Bentler, 1993).

Since the use of parcel factoring (see, e.g., Cattell, 1974; Comrey, 1961, 1970; Kline, 1981) would essentially provide a factor solution that is consistent with a solution derived by single item factoring, the GPS items were transformed into nine factored homogenous parcel variables using Comrey FHIDs parcelling method (Comrey, 1961, 1970). This was also necessary in allowing the evaluation of the GPS model performed by means of EQS program without technical problems relating to the number of observed variables.

Confirmatory factor analysis, based on the use of Structural Equation Modelling on the GPS scores for a total of 227 non-student individuals, demonstrated a substantial degree of goodness-of-fit. This was evidenced by both the value of chi-squared statistics ($\chi^2 = 26.482$, df = 22, $p = 0.231$) and other goodness of fit indices (Table 23.1). Moreover, inspection of measurement equations and their associated test statistics, standardised solution indicate that the GPS three-factor

model was clearly replicated. Therefore, the prediction, as outlined in the EQS input program, that particular GPS variables would be indicators of particular latent variables (GPS three factors), was confirmed.

These findings are of special interest since as they demonstrate that the GPS three-factor model was consistent with that previously identified through an exploratory factor analysis. More importantly, these findings show that this model can still provide a good fit even when data of non-student participants were used.

The second analysis involved structural equation evaluation of the GPS model on the data of 206 university students (Tables 24.1 and 24.2). An EQS input program specifying the predicted GPS three-factor model was set up. The results, displayed in Table 24.1, demonstrate a non-significant chi-squared ($\chi^2 = 37.660$, df = 26, $p = 0.0651$). Although the resulting probability value appears to indicate that the model had a slightly weaker fit than that obtained for the first sample, this value is still below significant level.

In order to test for whether the covariance matrices of the two samples could be represented by one single-population matrix, the structural equation-based method explained in Dunn, Everitt, and Pickles (1993) was used. The chi-squared goodness-of-fit test is demonstrated that the difference between the two matrices did not reach an acceptable level of significance ($\chi^2 = 60.819$, df = 45, $p = 0.05787$).

In the light of this result, the two matrices were pooled to form a single matrix ($N = 433$). A third EQS input program, in which the predicted GPS three-factor model was specified, was run. The observed results (Tables: 23.1 to 27; and Figure 11) have lent strong support for the goodness of fit of the three-GPS factor model. This

was evidenced by both the value of chi-squared statistics ($\chi^2 = 36.432$, df = 25, $p = 0.0653$) and other indices of goodness-of-fit: NFI, NNFI, CFI, though these are normally only of great importance when chi-squared is significant.

In addition to these findings, the model was further evaluated using an independent structure equation program: AMOS (Arbuckle, 1994) the result of which was highly consistent with those obtained by EQS. The chi-squared value for the model, as estimated by AMOS program was: χ^2 33.245, df = 23, $p = 0.077$.

The results of evaluating the GPS three-factor model of guilt-proneness by means of a confirmatory factor analysis, based on Structural Equation Modelling, provides substantial support as to the goodness of fit of the GPS factor model. Hence, a new body of evidence regarding construct validity of the GPS has been demonstrated. Assessments of the GPS reliability that were based on the data of the confirmatory study, indicated that the GPS scales demonstrated a satisfactory level of reliability in terms of both Cronbach' alpha and test-retest techniques.

To conclude, the attempts to establish evidence of the criterion-related, construct, discriminant and convergent validity of the GPS measure of guilt-proneness, and of its reliability, through a series of psychometric analyses, have been largely successful. The forthcoming chapters concern the employment of the GPS Scale as the principal research instrument, in examining individual differences in guilt-proneness between Saudi juvenile voluntarily admitted drug abuses, convicted drug abusers, non-drug-abusers, offenders and a group of normal controls.

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Chapter Twelve

STAGE TWO:

A Comparison of Illicit Drug Takers, Offenders, and Normal Controls on Guilt-Proneness

This stage of the present study focuses on examining the relationship of guilt-proneness, as measured by the Guilt-Proneness instrument (**GPS**), to forms of deviant behaviour: juvenile illicit drug taking and other criminal offending behaviour, in Saudi Arabia. The analysis mainly concentrates on investigating individual differences between the following groups:

(*a*) Young illicit drug users who were voluntarily receiving rehabilitation treatment.

(*b*) Convicted young illicit drug users.

(*c*) Non-illicit-drug using young criminal offenders

(*d*) A normal non-criminal and non-drug-abusing control group.

The purpose of this stage of the research was to test the hypothesised relationship of guilt-proneness as a personality disposition to involvement in illicit drug use and criminal behaviour.

Hypotheses

On the basis of past literature, generated mainly in Western societies, which emphasises the role of guilt-proneness in inhibiting involvement in illegal drug use or in the commission of criminal acts (see, relevant review of empirical studies presented in Chapter 3), the following hypotheses have been drawn up.

H_1 Normal subjects will manifest greater amount of religious-related guilt-proneness than would the drug abusers in the voluntary rehabilitation group, the criminally convicted drug abusers, and the criminal offenders.

H_2 Drug abusers voluntarily receiving rehabilitation will score higher on all three guilt-proneness scales than either the convicted drug abusers or the offender group.

H_3 Guilt-proneness as measured by the GPS scales will be associated negatively with psychopathy.

H_4 There will be significant differences in mean guilt-proneness scores within groups, varying in their drug preference.

H_5 Guilt-proneness among members of the offender group will be associated negatively with their number of convictions.

H_6 Those offenders who had committed violent crimes will display significantly lower levels of guilt-proneness than those involved in non-violent crimes.

In addition to the above hypotheses, the interaction between guilt-proneness and selected variables will also be examined.

Method

(a) Subjects

The subjects were four groups: (a) 95 illicit-drug users voluntarily receiving rehabilitation (b) 58 convicted illicit-drug users (c) 122 juvenile criminals (d) 118 normal controls. The two illicit-drug groups were young patients registered for the drug rehabilitation programme at the al-Amal Hospital in the city of Riyadh. Patients in the two illicit-drug groups were users of different types of illicit drugs including heroin, cannabis, barbiturates, alcohol, and volatile solvent sniffing (see, Table 35). The offender group were new inmates at the Juvenile Centre in Riyadh. They were convicted of various types of criminal offences including theft, rape, homosexual acts, fighting, and domestic offences (see, Table 36). The normal group were secondary school pupils. Based on their school records as well as their own self reports, these pupils have not been previously involved in acts related to crime or illicit-drug use. The four groups of subjects were matched for age, IQ, educational level, and socio-economic status. All subjects in the four groups showed no evidence of mental retardation, of severe emotional disturbances, or of organic brain damage.

(b) Measures

To test Hypothesis One to Hypothesis Six, the refined 37-item Guilt-Proneness Scale (GPS; *Appendix* **A**) was employed as the main psychometric instrument. The Arabic version of the MMPI Psychopathic Deviate Scale (*Pd*, *Appendix* **H**; Al-Hajj, 1982) was used in order to test Hypothesis Three. In addition, general information

sheets were used to gather data on the subject's age, level of education, occupation, and town. For the criminal offender group the general information sheet contained additional questions that are specific to this group, i.e., questions on reason for conviction, and number of convictions (see, *Appendix* **M**). Similarly, there were specific questions relevant to the drug abuse group, i.e., questions on the type of illicit drug used, and on experience with drugs (*Appendix* **L**).

(c) Data Collection

1. *Illicit Drug Patients*

For gaining access to illicit drug patients at the al-Amal Hospital (AAH), it was necessary to arrange for official permission from Riyadh Health Authority. Prior to testing, the present investigator was introduced to most of the patients by two psychiatric social workers at the AAH. At this first meeting, the investigator explained to the patients the proposed data-collection task and asked them to participate. All testing sessions were conducted by the present investigator. AAH's psychiatric social workers assisted the investigator in the arrangement of testing sessions.

Each patient was given a packet of personality tests including the Guilt-Proneness Scale (GPS), the Psychopathic Deviate Scale (Pd), and a general information form *(Appendix **L**)*. Pencils were distributed with these scales and related forms. Testing was done in small groups of patients (9-11 Ss. in each group) and was completed over a period of six working days. The timing of testing sessions was

arranged with AAH authority so that testing would not occupy any of the AAH's daily clinical or recreational services. Testing, thus, was carried out between 9.00 a.m. and 10.45 a.m. In all cases, patients were tested voluntarily. Any patient could chose not to participate. While stressing the importance of taking part in the present research, patients were informed that participation would not affect the nature of their current treatment programme at the AAH.

2. *Offenders*

The investigator arranged for official access to young offenders at the Social Observation Centre in Riyadh (SOC) through the Ministry of Labour and Social Affairs. A first meeting with inmates at the SOC was arranged. At this meeting, inmates were informed of the proposed testing and were asked to take part in this testing. Inmates were arranged to be tested in small groups (10 Ss. in each group), in class rooms.

Each subject was given the testing materials which include the Guilt-Proneness Scale (GPS), the Psychopathic Deviate Scale (*Pd*), and a general information form relevant to this subject group (*Appendix* **M**). All testing sessions were conducted by the present investigator and with help of the SOC social workers. Testing of inmates was done between 9.00 a.m. and 11.00 a.m., and was completed over a period of 5 working days. Inmates taking part in the testing were informed that their participation would not effect the date of their release. They were also reassured that their data would only be used for academic research, and that no personal names would be revealed.

3. Normals

Participants representing *normal control subjects* were drawn from three junior high schools. The schools were located in three main areas in the city of Riyadh: Al-Solaymannyah, Al-Naseriyah, and Al-Naseem. Access to participants at these schools was arranged through the Ministry of Education. Most pupils were informed of the testing one day prior to testing. However, since testing had to take place during daily classes, the number of participants was determined by the nature of teaching schedule in each school. Testing was conducted by the present investigator.

Subjects were tested in class rooms in small groups of approximately 20 pupils. As with the other subject groups mentioned above, these subjects were given the same testing materials: the Guilt-Proneness Scale (GPS), the Psychopathic Deviate Scale (*Pd*), and a general information form relevant to this group of subjects *(Appendix* **K***)*. Testing was carried out over a period of one week.

For all subjects groups, the assessment of their IQ through the Youth Intelligence Test (YIT: Zahran, 1976), was administered at separate sessions. The YIT was conducted in accordance with its original instructions (see, relevant detail about the YIT in the Measures section, Chapter **10**).

(d) Design of the comparison

The original number of each subject group in this study was as follows: 118 normals, 95 drug abusers voluntarily receiving rehabilitation, 74 convicted drug abusers, and 122 non-drug abusing offenders. Since the group of convicted drug abuse patients was the smallest group (58 subjects), it was first decided to examine the data of this group in terms of their scores on the following variables: age, IQ, educational level, and socioeconomic status. The second step was to include subjects from the other four groups in the comparison if their data were similar to those of the convicted drug abuse group. The subjects then were grouped initially on the basis of information on these variables. The third step was the employment of statistical tests to check the level of differences between the four groups.

The number of subjects in each group (except for the convicted drug abuse group) was reduced as a result of exclusion of data that did not meet the grouping criteria. Thus, groups were matched in terms of age, IQ, educational level, and socioeconomic status. It was also necessary to exempt the data of 11 subjects from statistical treatment because they were incomplete.

Table 29 shows the means and standard deviations for age, for each of the four groups. All the four groups considered for the comparison demonstrated high levels of similarity in terms of their age levels. To examine the extent of this similarity between the four groups, an ANOVA test was carried out.

Table 29

Means and standard deviations of age for the Voluntary Drug-Abuser, Convicted Drug-Abuser, Offender, and Normal groups.

Subject group	V. D. Abusers	C. D. Abusers	Offenders	Normals
N	64	58	71	68
Mean	17.809	17.759	17.408	17.809
Standard Deviation	1.327	1.418	0.803	1.519

Note: *V. D. Abusers = Voluntarily-admitted drug abuse patients; C. D. Abusers = Convicted drug abusers.*

Table 30

One-Way Analysis of Variance test for the difference in mean age between the four subject groups.

Source of variance	df	SS	MS	*F*	*p*
Factor: Age	3	11.95	3.98	2.41	n.s.
Error	257	425.27	1.65		
Total	260	437.23			

Note. ***DF** = Degrees of Freedom; **SS** = Sum of Square; **MS** = Mean Square.*

As shown in Table 30, the obtained F did not reach a statistically significant level ($F = 2.41$, df = 3, $p > 0.05$)

Table 31 shows the means and standard deviations of IQ as measured by the Youth Intelligence Test (YIT; Zahran, 1976) for each group. Generally, all groups considered for the comparison had fairly similar IQs, but the normals had the highest IQ (Mean = 105.25, STD = 17.14), and the convicted drug abuse group had the lowest IQ in the four groups (Mean = 97.91, STD = 18.28). To examine the extent of differences in more precise term, a one way analysis of variance was computed on the subjects' IQ scores. The results of this one-way ANOVA are presented in Table 32.

Table 31

Means and standard deviations of **IQ** for the Voluntary Drug-Abuser, Convicted Drug-Abuser, Offender, and Normal groups.

Subject group	**V. D. Abusers**	**C. D. Abusers**	**Offenders**	**Normals**
N	64	58	71	68
Mean	100.47	97.91	98.89	105.25
Standard Deviation	16.97	18.28	18.58	17.14

Note: *V. D. Abusers = Voluntarily admitted drug abuse patients; C. D. Abusers = Convicted drug abusers.*

Table 32

One-Way Analysis of Variance test for the difference in mean **IQ** between the four subject groups.

Source of variance	**df**	**SS**	**MS**	***F***	***p***
Factor: IQ	3	2095	698	2.21	0.087
Error	257	81024	315		
Total	260	83119			

Note. ***DF** = Degrees of Freedom; **SS** = Sum of Square; **MS** = Mean Square.*

The one-way analysis test (Table 32) demonstrated no significant difference between the four groups in terms of their IQ scores ($F = 2.21$, df = 3, $p = 0.087$).

The educational level of the subjects in the four groups was looked at in terms of either the *current* scholastic level (viz. preparatory or secondary level) or previous scholastic level (in the case of school leavers). Preliminary inspection of the current educational status of each subject in the four groups indicated that each subject had either preparatory or secondary school education. Subjects, therefore, were placed in two educational categories.

Table 33 shows the frequencies of educational level category for the subjects in the four groups, as well as percentages of frequencies of these categories expressed in relation to the total number of subjects in each group. It can be seen that all subjects had at least preparatory education; the majority of subjects in the four groups had a secondary school level of education.

Chi-squared was computed on the 2 X 4 contingency table. The results of this chi-squared test demonstrated no significant difference between the four groups in terms of the two educational categories (chi-squared = 3.981 df = 9).

Table 33

Distribution of Subjects By Educational level

Educational level	V. D. Abusers Freq. %	C. D. Abusers Freq. %	Offenders Freq. %	Normals Freq. %
Preparatory School Level	7 10.93%	11 18.96%	9 9.85%	5 7.35%
Secondary School Level	57 89.06%	47 81.03%	62 87.32%	59 86.76%
Total	64 100%	71 100%	64 100%	68 100%

Note: *V. D. Abusers = Voluntarily admitted drug abuse patients; C. D. Abusers = Convicted drug abusers.*

Table 34 Distribution of subjects by level of income

Level of Income	V. Drug Abusers freq. %	C. Drug Abusers freq. %	Offenders freq. %	Normals freq. %
Very Low Income (Up to SR1500)	6 9.37%	5 8.62%	8 11.26%	3 4.41%
Low Income (SR1501-SR5000)	8 12.5%	9 15.52%	14 19.71%	11 16.17%
Medium Income (SR5001-SR9000)	34 53.12%	29 50%	33 46.48%	35 51.47%
High Income (More than SR9000)	18 28.12%	15 25.86%	16 22.53%	19 27.94%
Total	**64** 100%	**58** 100%	**71** 100%	**68** 100%

Note: *V. Drug Abusers = Voluntarily admitted drug abusers, C. Drug Abusers = Convicted drug abusers.*

Table 35

Distribution of Drug Abusers by Type of Drug used

Drug Abuser Group	V. Drug Abusers freq. %	C. Drug Abusers freq. %
Alcoholics	22 34.37%	18 31.03%
Heroin users	18 28.12%	15 25.86%
Multi-Drug users*	24 37.5%	25 43.1%
Total	**64** 100%	**58** 100%

***Note:** *Multi-drug users include those who have experimented with two or more of the following types of illicit drugs: heroin, cannabis, barbiturates, alcohol, and volatile solvent sniffing.*

Table 36

Distribution of Offenders by type of offence

Type of Offence	frequency	%
Theft	44	61.97%
Homosexual act	7	9.85%
Rape	2	2.81%
Fighting	13	18.31%
Domestic offences	5	7.04%
Total	**71**	100%

Control Variables

Since the statistical tests have revealed no significant differences between the four groups on age, IQ, educational level, and socioeconomic status (see, Table 29 to Table 34), it was evident that the groups had been successfully matched on these variables and their possible confounding effects were, thus, eliminated.

Statistical Treatment of Data

To test Hypothesis One to Hypothesis Six, the following statistical techniques have been utilised: one-way analysis of variance, planned (priori) and unplanned (post hoc) comparisons, ***t***-test (for independent sample version) and, the Pearson correlation coefficient.

In most instances, the statistical tests have been employed using the Statistical Package for the Social Sciences: SPSS (SPSS Inc., 1990) on the University of Newcastle upon Tyne UNIX main frame service:

Chapter Thirteen

Data Analysis And Results Of The Comparison Study

This Chapter presents the results of a series of statistical analyses which were conducted for examining the six main hypotheses of the present study.

The Test of the First Hypothesis

The first hypothesis stated that the normal subjects would manifest greater amount of religious-related guilt than the voluntary drug abusers, convicted drug abusers, or offenders. To test this hypothesis, a one-way analysis of variance has been employed.

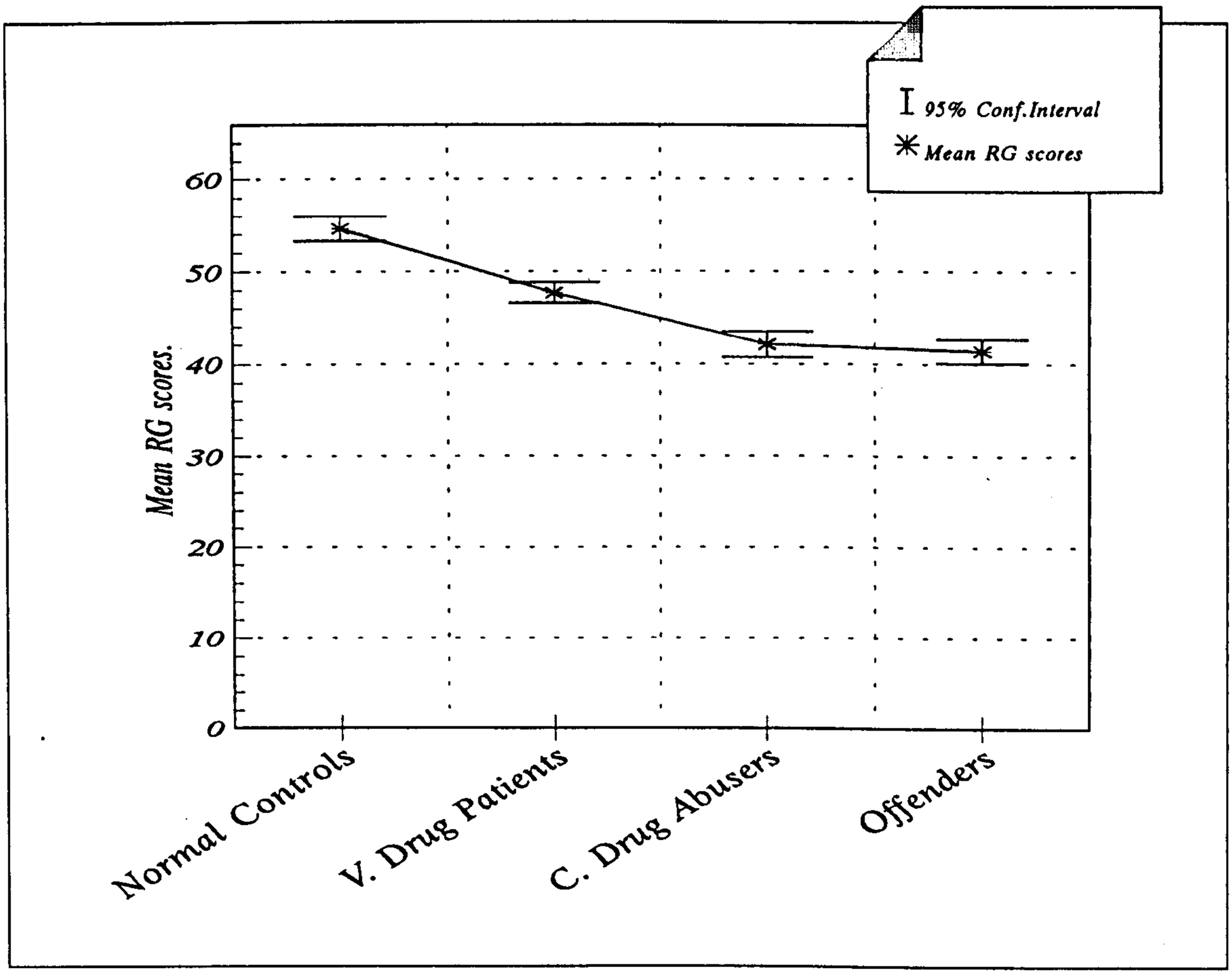
The analysis was based on the data of 64 young drug abusers, 58 convicted drug abuse patients, 71 young offenders and 68 normal controls. For the purpose of examining the differences between the voluntary-admitted drug abuse, convicted drug abuse, offender, and normal control group on the three guilt scales: religious-related guilt (RG), self-oriented guilt (SG), and social-related guilt (SG), one-way analysis of variance (ONE-WAY ANOVA) has been utilised. Prior to the employment of one-way ANOVA, the data of the four groups had been examined in effort to determine whether the assumptions underlying the use of the analysis of variance technique were met. The Bartlett-Box *F* has shown a high level of homogeneity among the four groups. *F* values obtained for the four groups on religious-related guilt, self-oriented guilt, and social-related guilt were: 0.89, 0.55, and 0.71

respectively. In addition, indices for skewness and kurtosis were low, demonstrating negligible levels of departure from normal distribution.

The results have revealed a substantially significant differences between the four groups on the Religious-Related Guilt scale (**RG**). The mean religious-related guilt scores for the normal, voluntary drug abuse, convicted drug abuse, and offender groups were 54.6, 47.7, 41.3, 42.0, respectively.

Figure 12 represents a line chart showing mean scores of **RG** for the four groups. Table 37 displays the means and standard deviations of **RG** scores for all subject groups.

FIGURE 12 Mean Religious-Related Guilt (**RG**) and 95% confidence intervals



Note: *V. Drug patients = Voluntarily-admitted drug abusing patients.*
C. Drug Abusers = Convicted illegal drug abusers.
Offenders = Non-drug-abusing offenders.

Figure 12 shows clearly that the normal group and the voluntary drug abuse patients differ from each other and from the offender and convicted drug abuse patients but these last two groups are indistinguishable from each other (their 95 per cent confidence intervals overlap).

Table 37

Mean **Religious-Related Guilt (RG)** scores and standard deviations for the four groups.

Subject Group	*N*	Mean	Standard Deviation
Normals	68	54.6	5.49
V. Drug Abusers	64	47.7	4.54
C. Drug Abusers	58	42.0	5.33
Offenders	71	41.3	5.35
	Pooled standard deviation = 5.2		

Note. *V. Drug Abusers = Voluntarily Admitted Drug Patients; C. Drug Abusers = Convicted Drug Abusers; Offenders = Non-Drug-Using Offenders.*

Table 38

Analysis of variance of religious-related guilt (RG) score for the Voluntary Drug ($N = 68$), Convicted Drug Abusers ($N = 58$), Non-Drug-Using Offenders ($N = 71$), and Normal Controls ($N = 68$).

Source	DF	SS	MS	*F*	*p*
Factor:					
RG	3	7600.3	2533.4	93.62	< 0.001
Error	257	6954.9	27.1		
Total	260	14555.2			

Note. ***DF*** = *Degrees of Freedom;* ***SS*** = *Sum of Square;* ***MS*** = *Mean Square.*

A one-way analysis of variance of the religious-related guilt sores (Table 38) showed highly significant differences among the three groups ($F = 93.61$, $df = 257$, $p < 0.001$).

In order to identify the magnitude of differences among the four groups, a series of *planned comparisons* (priori) were carried out. The analysis revealed that the normal group scored significantly higher on the Religious-Related Guilt scale than the voluntary drug abuse ($t = 7.6$, $p < 0.001$), convicted drug abuse ($t = 13.5$, $p < 0.0001$), and offender groups ($t = 15$, $p < 0.0001$). Hence the first hypothesis was fully supported.

The Test of the Second Hypothesis

The second hypothesis stated that voluntary drug abusers would score higher on the three guilt-proneness scales than either the convicted drug abusers or offender group. In order to identify the magnitude of differences among the three subject groups, planned comparisons were used. The results, derived by planned comparisons, demonstrated that the voluntary drug abuse group scored significantly higher on the RG scale than those convicted drug abusers (t = 5.9, p< 0.001). On the other hand, the voluntary drug abuse group scored significantly higher than the offender groups (t = 7.0, p< 0.001). However, no significant differences were found between the convicted drug abusers and the offenders in terms of their scores on the Religious-Related Guilt scale (t = 0.75). The analysis also indicated that all these three groups were significantly lower on religious-related guilt- proneness than the control group (the normal subjects).

The four groups were compared in terms of their scores on self-related guilt (**SG**). As shown in Table 39, one-way analysis of variance demonstrates highly significant differences between the four groups (F = 48.44, df = 257, p< 0.0001). However, the results, based on planned comparisons, have indicated that the voluntary drug abuse patients scored significantly higher, on the **SG**, than either the convicted drug abusers (t = -5.38, p< 0.001) or the offender groups (t =-6.2, p<0.001). No statistically significant differences were found between the convicted drug abusers and the offender groups (t = 0.485, p = 0.63). Planned comparisons also revealed that the control group scored significantly higher on the SG scale than the voluntary drug abuse patients (t = -4.2, p< 0.001), the convicted drug abusers (t = -9.5, p< 0.001) and the criminal offenders (t =-10.5, p< 0.0001).

Table 39

Analysis of variance of self-oriented guilt (SG) for the Voluntary Drug Patients (N = 68), Convicted Drug Abusers (N = 58), Non-Drug-Using Offenders (N = 71), and Normal Controls (N = 68).

Source	DF	SS	MS	*F*	*p*
Factor: SG	3	3688.9	1229.6	48.44	< 0.001
Error	257	6524.0	25.4		
Total	260	10212.0			

Note. ***DF*** *= Degrees of Freedom;* ***SS*** *= Sum of Square;* ***MS*** *= Mean Square.*

Table 40

Analysis of variance of social-related guilt (SOG) for the Voluntary Drug Patients (N = 68), Convicted Drug Abusers (N = 58), Non-Drug-Using Offenders (N = 71), and Normal Controls (N = 68).

Source	DF	SS	MS	*F*	*p*
Factor:					
SOG	3	22482.7	7494.2	213.8	< 0.0001
Error	257	9007.2	35.0		
Total	260	31489.9			

Planned comparison revealed that the voluntary drug abuse patients scored significantly higher on social-related guilt (SOG) than either the convicted drug patients (t = -13.3, p< 0.0001) or the offender groups (t = -15.9, p< 0.0001). However, there was no significant difference between the convicted drug patients and the offender groups (t = 1.8, p = 0.07). The results also showed that the control group scored significantly higher on the SOG scale than the voluntary drug abuse patients (t = -5.2, p< 0.001), the convicted drug abusers (t = -18.6, p< 0.0001) and the criminal offenders (t = -21.47, p< 0.0001). Thus, the second hypothesis was also substantially supported.

Hypothesis three stated that: guilt-proneness will relate negatively to psychopathy in the drug abuser and young offender groups. To test this hypothesis, the Pearson product-moment correlation coefficient was employed.

Table 41 presents the relationship between the three **GPS** subscales: religious-related guilt, self-oriented guilt, social-related guilt and the Arabic version of the MMPI *Pd* measure of psychopathic deviation.

Table 41

Pearson correlation coefficients between psychopathy, measured by the Arabic version of the **Pd** scale, and the three guilt-proneness scales: Religious-Related Guilt **(RG)**, Self-Oriented Guilt **(SG)**, Social-Related Guilt **(SOG).**

Scale	**Normals** ($N = 68$)	**Drug Abusers** ($N = 64$)	**Offenders** ($N = 71$)
RG	-0.455**	-0.404**	-0.439**
SG	-0.423**	-0.451**	-0.335**
SOG	-0.513**	-0.654**	-0.440**

Note ** = $p < 0.01$;

***Pd** = the **MMPI** Psychopathic Deviate Scale; **RG** = the Religious-related Guilt subscale of the Guilt-Proneness Scale **(GPS)**; **SG** = the Self-oriented Guilt subscale of the **GPS**; **SOG** = the Social-related Guilt subscale of the **GPS**.*

The results of the correlational analysis presented in Table 41 indicate that all the three guilt scales (RG, SG, SOG) correlated significantly negatively with psychopathy in normals, drug abusers and offenders. All correlation coefficients observed are at the 0.01 level of significance. This findings provided strong evidence towards the confirmation of the assumption stated by the third hypothesis.

The Test of the Fourth Hypothesis

The fourth hypothesis stated that there would be significant differences in mean guilt-proneness scores among groups varying in their drug preference. To test this hypothesis, the drug abuse patients were, first, classified according to the type of their drug preference. The patient's drug preference was identified via two sources: first from his self-reported information on "the General Information Questionnaire" and second through an examination of the patient's record at the al-Amal Hospital. Utilising these two methods, It was possible to place the patients into three groups: (**a**) Alcohol drinker patients (22 Ss.), (**b**) Heroin user patients (18 Ss.), and (**c**) Multi-drug abusers (24 Ss).

A one-way analysis of variance test was conducted to examine the differences between the three patterns of drug abusers in terms of the level of guilt as measured by the three guilt scales: **RG**, **SG**, **SOG**. The results relating to the Religious-Related Guilt scale (RG) have shown highly significant differences between the alcoholic, heroin, and multi-drug abusers ($F = 14.4$, $df = 61$, $p < 0.005$). To locate the differences between the four groups, it was necessary to employ the planned comparison technique. Firstly, the analysis revealed that the alcohol group was significantly higher on RG scores than either the heroin ($F = 5.3$, $p < 0.005$) or multi-drug abusers ($F = 3.25$, $p < 0.005$). In addition, significant differences in RG were found between the alcohol and multi-drug abusers ($F = 2.3$, $p < 0.025$) indicating that the alcohol group was higher on the RG scale than the multi-drug abusers.

Secondly, with regard to the Self-Oriented Guilt scale (SG), one-way analysis of variance has shown insignificant overall F between the three groups of drug

abusers. However, comparison of mean SG scores between the alcohol and multi-drug abusers has demonstrated significant differences ($F = 1.677$, $p< 0.05$ F).

Thirdly, the analysis revealed highly significant differences between the alcohol, heroin, and multi-drug abusers on the Social-Related Guilt scale ($F = 4.72$, $df = 61$, $p< 0.005$). Planned comparison has revealed that the alcoholic group scored significantly higher on the SOG than either the heroin or multi-drug abuse groups. Hence the fourth hypothesis was partially supported by the present results.

Furthermore, it was the intention in this research to examine the impact of the duration of drug abuse on the strength of the level of guilt in the drug abuse group. The drug abusers were classified according to their length of experience with drugs, into three groups: (a) short-term abusers: this group comprises patients who had been on drugs for less than six months (29 Ss), (b) medium-term abusers: this group contains patients who had been on drugs for six months to one year (17 Ss), and (c) long-term abusers: this group comprises patients who had been on drugs for more than one year (18 Ss). This classification was based on information gathered from the patients and from the hospital record. However, the exact range for each category, was decided upon in the light of the observed frequency of experiences with drugs.

A one-way analysis of variance was conducted to examine the differences in guilt-proneness between the three categories of drug abusers. Firstly, the results have demonstrated highly significant differences between the short-term abusers, medium-term abusers, and long-term abusers on the Religious-Related Guilt scale($F = 8.3$, $df = 61$, $p< 0.005$), Self-Oriented Guilt scale ($F = 6.79$, $df = 61$,

$p< 0.005$), and Social-Related Guilt scale ($F = 76$, $df = 61$, $p< 0.005$). Since there has been no planned prediction in relation to this comparison, it was decided to employ an *unplanned comparisons* technique (post hoc). The statistical test used in this analysis is known as the Scheffé multiple range test. This test was also chosen because of its appropriateness to unequal-sized samples (Hays, 1965). The 0.01 level of significance was set as the criterion for regarding differences to be statistically significant.

The analysis has shown that the short-term abusers scored significantly higher religious-related guilt scores ($p< 0.01$) than either the medium-term abusers or the long-term abusers. However, no significant differences, on religious-related guilt (RG), was observed between the short-term abusers and medium-term abusers on the one hand, and between the medium-term abusers and long-term abusers on the other ($p> 0.05$). The *multiple range test* has demonstrated that the short-term abusers had significantly higher self-oriented guilt (SG) scores ($p< 0.01$) than both the medium-term abusers and long-term abusers. But no significant differences observed on self-oriented guilt between the short-term abusers and medium-term abusers on the one hand, and between medium-term abusers and long-term abusers on the other ($p> 0.05$).

Furthermore, the results relating to social-related guilt (SOG) have shown that the short-term abusers scored significantly higher ($p< 0.01$) than both the medium-term abusers and long-term abusers. The differences between the short-term abusers and the medium-term abusers on the one hand, and between the medium-term abusers and long-term abusers on the other, were insignificant ($p> 0.05$).

The Test of the fifth Hypothesis

To allow for testing the fifth hypothesis, which predicted individual differences in guilt-proneness between first-time and repeat offenders, the offenders were grouped into two categories according to whether they were first-time (50 Ss.) or recidivists (21 Ss.). A *two-sample t* test was utilised to examine the differences between the two groups. The analysis, shown in Table 42 to Table 44, has revealed a substantially significant *t* between the two groups on religious-related guilt (t = 3.84, df = 69, p< 0.001), self-oriented guilt (t = 2.9, df = 69, p< 0.005), and social-related guilt (t = 5.57, df = 69, p< 0.001). These three *t*-test results indicate quite a large effect size. Cohen's *d*'s for the differences between the two groups in RG, SG and SOG are 0.95, 0.75, and 0.8 respectively.

Table 42

t-Test for the differences in mean Religious-Related Guilt (**RG**) scores between the First-time and Recidivists.

Group	*N*	Mean	Standard Deviation	Standard Error	df	*t*	2-Tailed *p*
First-time	50	42.8	4.46	0.63	69	3.84	< 0.001
Recidivists	21	37.9	5.83	1.27			

Table 43

t-Test for the differences in mean Self-Oriented Guilt (**SG**) scores between the First-time and Recidivists.

Group	*N*	Mean	Standard Deviation	Standard Error	df	*t*	2-Tailed *p*
First-time	50	46.8	4.994	0.706	69	2.9	< 0.005
Recidivists	21	43.2	4.546	0.992			

Table 44

t-Test for the differences in mean Social-Related Guilt (**SOG**) scores between the First-time and Recidivists.

Group	*N*	Mean	Standard Deviation	Standard Error	df	*t*	2-Tailed *p*
First-time	50	51.6	5.2	0.73	69	5.57	< 0.001
Recidivists	21	44.8	3.3	0.72			

The Test of the Sixth Hypothesis

The sixth hypothesis posited that offenders who had committed violent crimes would display lower level of guilt than those who were involved in non-violent crimes. In order to test this hypothesis, the offenders were classified into two groups according to whether they had committed violent crimes (27 Ss.) or non-violent crimes (44 Ss.).

The first category, the violent offenders, included those individuals who had committed crimes accompanied by a physical attack on their victims, such as sexual assault, domestic violence and fighting initiated by the offender. The second category, the non-violent offenders, included those individuals who had committed crimes against property without using any form of violence. This category, in the present study, included offenders who had been convicted of theft.

A two-sample *t* test was utilised to examine the differences between the two groups. The analysis has uncovered substantially significant differences between the two groups on religious-related guilt ($t = -2.33$, $df = 69$, $p < 0.05$), social-oriented guilt ($t = -7.6$, $df = 69$, $p < 0.001$; but no statistically significant differences were found between the two groups on self-oriented Guilt (see, Table 45 to Table 47). The results of these three *t*-tests indicate a very high effect size for SOG (Cohen's $d = 1.9$), moderately high effect size for RG (Cohen's $d = 0.54$), but relatively weak effect for SG (Cohen's $d = 0.2$).

Table 45

t-Test for the differences in mean Religious-Related Guilt scores between the Violent and Non-Violent Offenders.

	N	Mean	Standard Deviation	Standard Error	df	*t*	2-Tailed *p*
Violent	27	39.5	5.9	0.99	69	-2.33	< 0.023
Non-Violent	44	42.5	5.2	0.78			

Table 46

t-Test for the differences in mean SG scores between the Violent and Non-Violent Offenders.

	N	Mean	Standard Deviation	Standard Error	df	*t*	2-Tailed	*p*
Violent	27	45	5.4	1.04	69	-1.0	0.32	n.s.
Non-Violent	44	46.2	4.9	0.74				

Table 47

t-Test for the differences in mean **SOG** scores between the Violent and Non-Violent Offenders.

	N	Mean	Standard Deviation	Standard Error	df	*t*	2-Tailed	*p*
Violent	27	44.8	3.35	0.64	69	-7.6	< 0.005	
Non-Violent	44	52.6	4.622	0.69				

Summary and Conclusions

The GPS measure of guilt-proneness has been utilised, in this study, to test six theoretical hypotheses concerning relationships of the adaptive functions of guilt-proneness in inhibiting the occurrence of anti-social behaviour. The analyses have yielded promising results with regard to the measurement of individual differences in guilt predisposition between the groups tested. Both the convicted drug abusers and the non-drug-abusing offenders were marked by low susceptibility to experiencing guilt. Unlike the convicted drug abusers and the non-drug abusing offenders, the voluntarily-admitted drug abusing patients tended to maintain a healthy higher level of susceptibility to experiencing guilt, which may have been influential in their decision to seek treatment. The normal controls manifested the highest religious-related guilt (RG) which suggests that individuals who are generally more susceptible to experiencing guilt are more likely to resist the temptation of behavioural patterns that are contradictory to internalised religious, moral and social norms.

This indicates that for the subject with high guilt-proneness, temptation to become involved in tabooed behavioural patterns would be likely to evoke a set of behavioural potentials, expectancies, and reinforcement values which are a function of prior experiences that have been similarly classified. Hence, transgression and violation of norms are likely to occur in those who are low on guilt-proneness. The findings also revealed that the voluntarily admitted drug patients were distinguished in terms of GPS scores from both the convicted drug takers and the non-drug-abusing offenders. However, no significant differences were found between the convicted drug takers and the criminal offenders. An

examination of the relationship of guilt-proneness to psychopathy indicated a significant negative correlation. This pattern of correlation, revealed for the first time for subjects of an Arab culture, seems in line with most research exploring the relationship of guilt to psychopathy in Western juveniles.

With regard to the examination of individual differences in guilt-proneness between the heroin users, alcohol users, and multi-drug users, it was found that guilt-proneness differentiated significantly between these three groups of illicit drug takers. Using planned comparisons, the analysis indicated that the group who had used alcohol manifested higher RG than either those who had used heroin, or those drug takers who expressed no particular preference (multi-drug-users). The Religious-Related Guilt scale (RG) has shown substantial and significant differences between the alcoholic, heroin, and multi-drug abusers ($p< 0.005$). Using the planned comparison technique, the analysis has indicated that, firstly, the alcohol group were significantly higher on RG than either the heroin ($p< 0.005$) or multi-drug abusers ($p< 0.005$). In addition, the results have demonstrated a significant difference between the alcohol and multi-drug abusers ($p< 0.025$). Secondly, with regard to the Self-Oriented Guilt scale (SG), one-way analysis of variance has indicated no significant overall F between the three groups. However, when a planned comparison was conducted, these two groups were found to differ significantly: the alcohol and multi-drug abusers ($p< 0.05$). Thirdly, the analysis revealed significant differences on the Social-Related Guilt scale (SOG) between the alcohol, heroin, and multi-drug abusers ($p< 0.005$). Planned comparisons revealed here that the alcohol group scored significantly higher on the SOG scale than either the heroin or multi-drug abuse groups. Hence the third hypothesis is partially supported by the present results. The finding that the RG and the SOG

scales were able to differentiate between the three types of illicit substance use (i.e. heroin users, alcohol users, and multi-drug users), supports other studies, conducted in the West, which have indicated that level of guilt differs between takers of different types of drugs (Fehr, 1988; Schill & Althoff, 1975; Ungerer, *et al.*, 1976). An examination of the relationship between level of guilt-proneness and experience with illegal drug use indicated in the present study that those newly involved in taking illegal drugs manifested significantly higher scores on RG, SOG, and SG than the long-term users ($p < 0.01$).

The results of the present study also showed that the RG, SOG, and SG scales differentiated significantly between the recidivists and first time offenders, and between offenders who had committed violent crimes and those who had committed non-violent crimes. These results seem to be in good agreement with other studies involving the use the Mosher Guilt Scales with American offenders (e.g., Mosher & Mosher, 1967; Ruma & Mosher, 1967; Persons, 1970a). For the recidivists, it is expected that they display a lower tendency to experience guilt than those who are first time offenders. In fact, a number of psychologists who focus on the study of criminal behaviour have viewed lack of guilt feelings and recidivism as important components of psychopathic personality (e.g., Cleckley, 1976; Craft, 1965; Buss, 1966; Farrington, 1994; Hare, 1980, 1985; Hare & Cox, 1978; McCord & McCord, 1965; Yochelson, Samenow & Aronson, 1976).

The present findings clearly confirm, for the Saudi offender population, the hypothesised differences between the first time and persistent offenders and provide support for the studies of Mosher and Mosher (1967), and Persons (1970a). While the findings of the present study are in agreement with those of

Mosher and Persons, they also demonstrate the ability of the GPS measure of guilt to discriminate between subtypes of offenders. The RG and SOG scales were found to differentiate specific overt behaviour patterns in offenders; the SG scale seems to be less sensitive to the offender's tendency to indulge in particular type of crime. These findings suggest that guilt-proneness plays an important role in influencing the individual's decision to become involved in anti-social behaviour.

Chapter Fourteen

Follow-Up Study

Rationale

The results of the comparative study presented in Chapter 13 has uncovered substantive difference between the voluntarily-admitted drug abuse, convicted drug abuse and, offender group.

The findings have shown that the voluntarily-admitted drug abuse patients did score significantly higher on guilt-proneness than both the convicted drug abusers and the young criminals. They displayed significantly higher scores on religious-related guilt ($t = 7$, $p< 0.001$), self-oriented guilt ($t = -5.4$, $p< 0.001$), and social-related guilt ($t = -13.3$, $p< 0.001$) than the convicted drug abusers. Similarly, the voluntarily admitted drug abuse patients had significantly higher scores on these GPS subscales than the young criminal group. They demonstrated higher levels of religious-related guilt ($t = 7$, $p< 0.001$), self-oriented guilt ($t = -6.2$, $p< 0.001$), and social-related guilt ($t = -15.9$, $p< 0.001$) than the young criminal group.

These findings show a clear effect which is greater than what could be predicted by chance, demonstrating a marked association between guilt-proneness and the behavioural patterns of drug addiction and criminal offending in the juvenile.

To investigate the stability of these findings, a longitudinal approach has been utilised. The aim of applying this approach was to examine the extent to which

guilt-proneness as measured by the GPS scales predicts patterns of drug addiction and repeated offending.

Farrington (1979) and Farrington, Ohlin and Wilson (1986) have stressed the importance of longitudinal research projects. They point out that such a method of inquiry could provide a crucial source of information that is relevant to the prevention and control of delinquency and criminal behaviour. Longitudinal studies usually involve following a number of subjects over an extended period of time in order to measure the prevalence of particular effect of experience (Feldman, 1994, p. 50). That is, subjects are tested over defined period of time (or regular intervals).

For the importance of this type of research methodology, personality and clinical psychologists often conduct predictive studies of particular traits or behaviour in order to make decisions on issues such as personnel selection and therapeutic settings. For example, an early study on delinquency, involving the use of the MMPI, by Capwell (1945) suggested the possibility that delinquent behaviour might be predicted before it occurred. Hathaway and Manachesi (1953) demonstrated that the MMPI meets this test. These authors arranged to test a large sample of American school pupils (N = 4048), with the MMPI. Two years later a check of the local court records indicated that the test scores did predict, at a level far above chance, the possibility the a child would get into trouble with the authorities.

For the more serious categories of delinquent behaviour, Hathaway and Manachesi (1953) reported that a number of the MMPI scales gave significant differences

between those boys becoming delinquent during the two year-period, and a matched control group of non-delinquents. These scales, as reported by Hathaway and Manachesi (1953), included: (1) the Psychopathic Deviate (*Pd*) scale, which involves items about rebelliousness, conflict with parents, lack of guilt or remorse, (2) the Mania (MA) scale, with items about overactivity, high energy level, inability to stop something underway, (3) the Depression scale (delinquents showed less depression), (4) the Social Introversion scale (delinquents were slightly more extroverted).

In the case of drug abusers and offenders, follow-up studies are essential in measuring the stability of particular traits and behavioural patterns in the drug abuse and offender population. More importantly, this would help predict the occurrence of behaviours relating to use and re-use of illicit drugs, and crime.

Having taken the value of the follow-up approach into consideration, the present study has adopted this approach for examining the stability of the findings that have been reported in Chapter Thirteen. The specific aim of applying the follow-up approach was to examine the extent to which guilt-proneness as measured by the GPS scales predicts future patterns of drug addiction and repeated offending.

Method

Subjects

The GPS scales were administered for the second time, after a 33-month interval, to drug abusers and offenders who were available at the time of the second testing. The number of drug abusers who were available for the second testing (which was conducted between 4th and 20th April 1993), was 26 subjects. Fourteen subjects were re-admitted for drug rehabilitation programme at the al-Amal Hospital, in the city of Riyadh. Twelve subjects had progressively recovered over the 33 month period. The number of re-convicted offenders who were available at the time of the second testing were 16.

Measures

For the assessment of guilt-proneness, the 37-item Guilt-Proneness Scale (GPS) was used. In addition, subjects completed a general information sheet for gathering information regarding the subject's name, age, drug type or offence, and other related information (see, *Appendices* **K, L, & M**), and pencils.

Procedure

(*a*) Drug Patients

The investigator made the necessary arrangements with the al-Amal Hospital through King Saud University and the Health Authority in Riyadh (samples of letters relevant to this arrangements in *Appendix* **U**).

Re-admitted illicit drug patients (14 subjects) were contacted through the al-Amal Hospital File Office. recovered illicit drug patients (12 Ss) were contacted

personally by the investigator (12 subjects) and tested for the second time. A careful check was made to ensure that each subject in these two groups took the GPS 33 month ago.

For subjects who were being treated at the AAH, testing was done in two sessions. The instructions of the GPS remained the same as in the original format of the GPS and which was used in the first testing. For those who were contacted privately were also given the GPS material and this collected from them at a later time.

In all instances, testing was conducted with these two subject groups voluntarily and with no obligation.

(*b*) Offenders

Arrangements were made with the relevant authorities at both the Ministry of Labour and Social Affairs, and the Juvenile Observation Centre in Riyadh. A careful check on file records was made to ensure that the subjects to be tested were among those who took the GPS 33 month ago. This check was also necessary for identifying subjects who were at least re-convicted for a second time. The GPS was administered to the offenders in small groups of four subjects.

These subjects were told that their participation would not affect the date of their release. Participation was entirely voluntary. In all instances, confidentiality was stressed. Throughout the process of data analysis in the forthcoming chapter, personal names of subjects have not been used. Instead, they are referred to by a numeric code (*i.e., subject 1, subject 2, subject 3 etc.*).

Statistical Treatment of Data

In order to evaluate the extent to which drug abusers' or offenders' level of guilt-proneness had been consistent, appropriate statistical tests were employed. This includes two-way analysis of variance, and Pearson correlation coefficient. In addition, line charts were used for plotting means and their associated 95% confidence intervals. As with other statistical analyses presented in this research work, most statistical analyses to follow were performed on the Statistical Package for the Social Sciences program (SPSS Inc., 1990).

Results of the Follow-up Study

Table 48

Means and standard deviations of the **GPS** Total scores and subscales for the **Re-admitted Illicit-Drug Patients.**

Scale	First Testing				Second Testing			
	RG	SG	SOG	Total GPS	RG	SG	SOG	Total GPS
Mean	43.43	46.21	61.57	151.21	42.71	45.43	59.93	148.07
STD	4.36	6.52	7.97	8.85	4.61	7.30	8.29	11.24
$N = 14$								

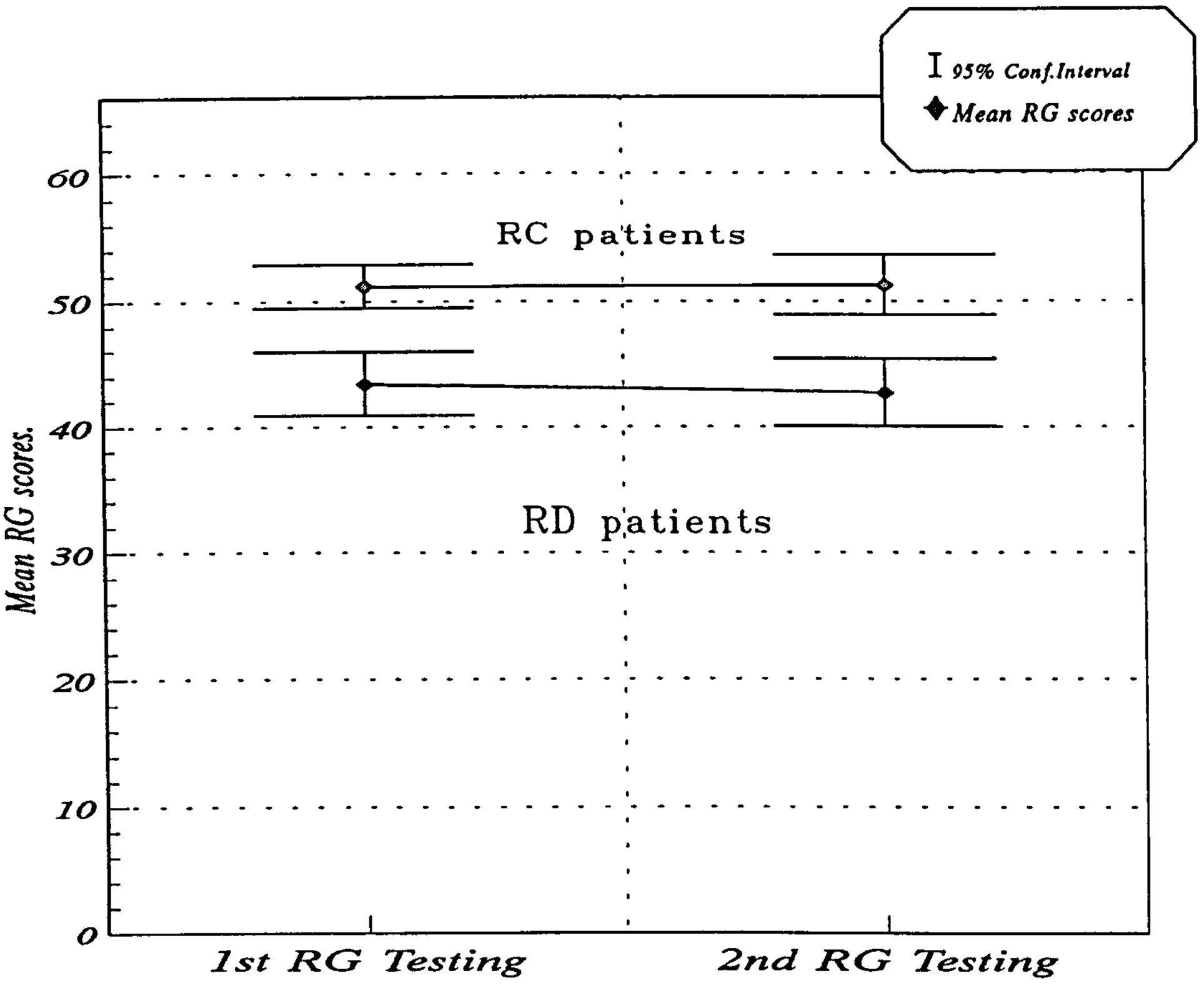
Table 49

Means and standard deviations of scores on the **GPS Total** and subscales for the first and second testing of the **Recovered illicit drug patients.**

Scale	First Testing				Second Testing			
	RG	SG	SOG	Total GPS	RG	SG	SOG	Total GPS
Mean	51.17	57.16	69.50	177.83	51.25	55.25	68.33	174.83
STD	2.62	3.33	6.22	7.53	3.67	4.65	5.31	8.63
$N = 12$								

Note: ***RG** = Religious-related guilt; **SG** = Self-oriented guilt; **SOG** = Social-related guilt; **GPS** = Guilt-Proneness Scale.*

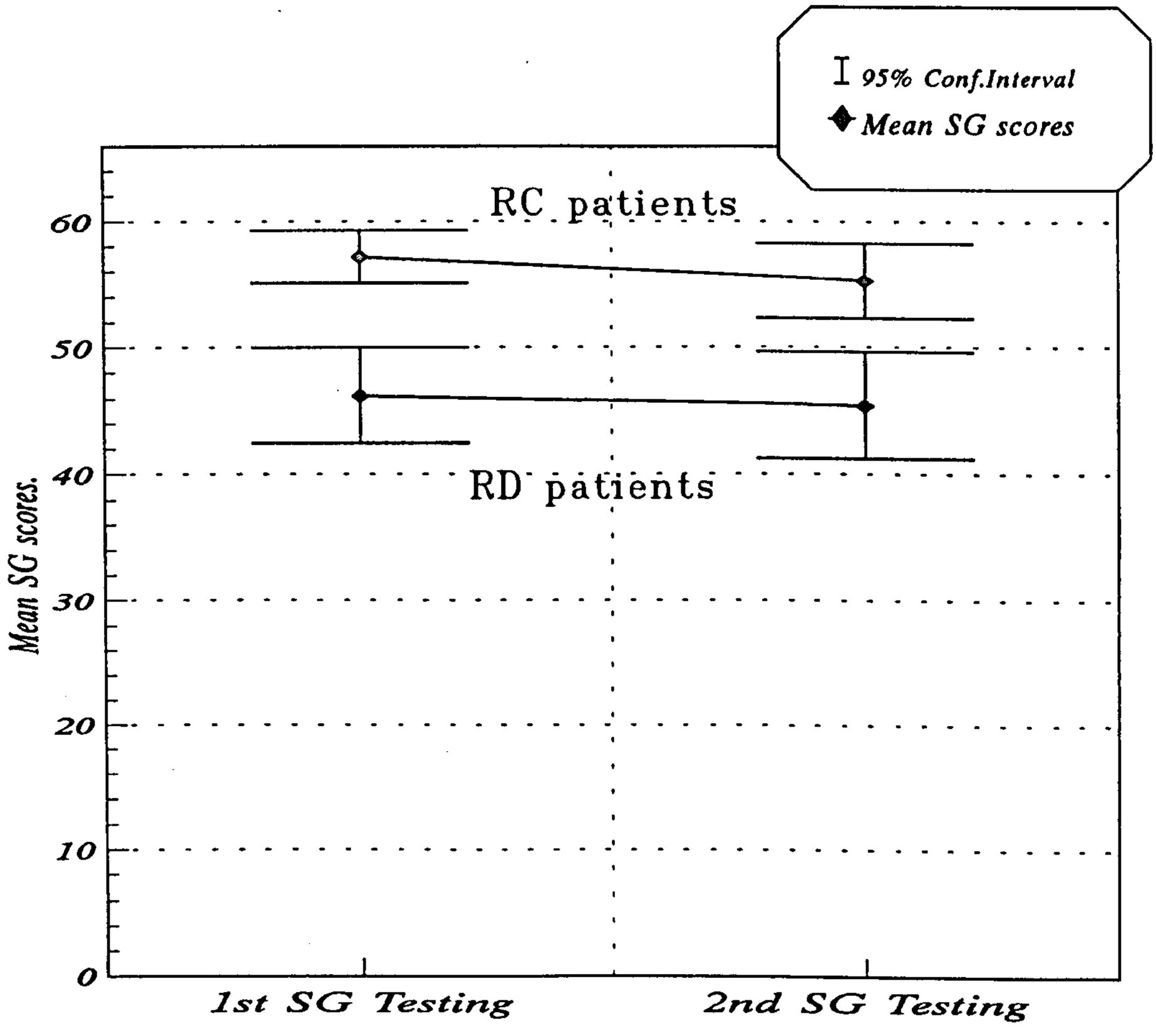
FIGURE 13 Mean RG scores and 95% confidence intervals



Note:

RC = recovered patients.
RD = re-admitted patients.
RG = Religious-related Guilt subscale of the GPS

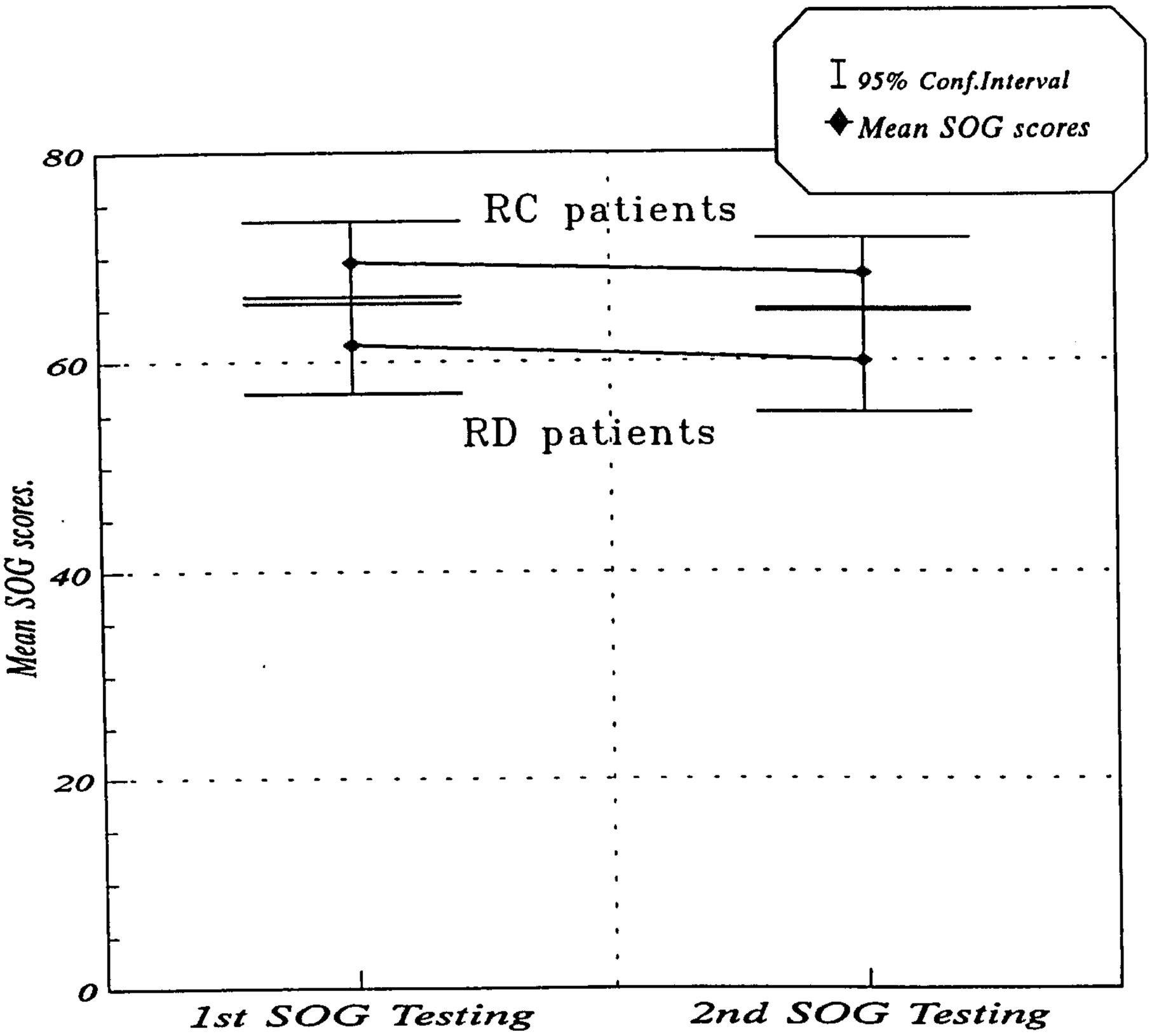
FIGURE 14 Mean **SG** scores and 95% confidence intervals.



Note:

RC = recovered patients.
RD = re-admitted patients.
SG = Self-oriented Guilt subscale of the GPS.

FIGURE 15 Mean **SOG** scores and 95% confidence intervals.



Note:

RC = recovered patients.
RD = re-admitted patients.
SOG = Social-related Guilt subscale of the GPS.

Table 50

2 x 2 Analysis of variance test of between-subjects effects - **RG** scale.

Source of Variation	SS	DF	MS	*F*	*p*
Within Cells	655.32	24	27.30		
Group	855.63	1	855.63	31.34	< 0.0001

Note. ***SS** = sum of variance; **DF** = degrees of freedom; **MS** = mean square; **RG** = Religious-Related Guilt*

In order to determine whether the recovered patients differed statistically from the re-admitted patients on the Religious-Related Guilt scale which was taken two times with a 33-month interval, a 2 x 2 analysis of variance was employed. The observed *F* value ($F = 31.34$, $p < 0.0001$) derived by the two-way analysis of variance (Table 50) indicates clearly that the two subject group differed statistically in terms of their scores on religious-related guilt (RG) for the two testing occasions. This results demonstrate a highly significant RG main effect on the grouping variable: recovered patients *vs.* re-admitted patients.

Table 51

2 x 2 Analysis of variance test of within-subjects effects - **RG** scale.

Source of Variation	**SS**	**DF**	**MS**	***F***	*p*
Within Cells	92.89	24	3.87		
Group	1.29	1	1.29	0.33	0.570
Group By RG	2.06	1	2.06	0.53	0.473 **n.s.**

Note. ***SS** = sum of variance; **DF** = degrees of freedom; **MS** = mean square; **RG** = Religious-Related Guilt.*

To allow for testing whether or not the observed main effect of religious-related guilt (shown in Table 50) was dependent upon particular testing occasions, analysis of variance test of within-subjects effects was conducted. The results shown in Table 51 indicates that the within-subjects interaction effect of first *vs.* second testing x religious-related guilt scores was not significant ($F = 0.53$, $p = <0.473$ n.s.).

Table 52

2 x 2 Analysis of variance test of between-subjects effects - **SG** scale.

Source of Variation	SS	DF	MS	*F*	*p*
Within Cells	1322.07	24	55.09		
Group	1394.24	1	1394.24	25.31	< 0.0001

Note. ***SS** = sum of variance; **DF** = degrees of freedom; **MS** = mean square; **SG** = Self-Oriented Guilt.*

Table 52 presents 2 x 2 analysis of variance test of the differences between the recovered and re-admitted patients on the Self-Oriented Guilt scale which was taken two times with a 33-month interval. The results of the two-way analysis of variance demonstrate a large main effect ($F = 25.31$, $p = < 0.0001$) which indicates that the two subject groups differed statistically in terms of their scores on self-oriented guilt (SG) for the two testing occasions.

Table 53

2 x 2 Analysis of variance test of within-subjects effects - **SG** scale.

Source of Variation	SS	DF	MS	*F*	*p*
Within Cells	283.64	24	11.82		
Group	23.59	1	23.59	2.00	0.171
Group By SG	4.13	1	4.13	0.35	0.560 **n.s.**

Note. ***SS** = sum of variance; **DF** = degrees of freedom; **MS** = mean square; **SG** = Self-Oriented Guilt.*

To determine whether or not the observed main effect of self-oriented guilt (shown in Table 52) was dependent upon particular testing occasion (first or second testing), analysis of variance test of within-subjects effects was used. The results shown in Table 53 indicates that the within-subjects interaction effect: first testing *vs.* second testing x religious-related guilt scores was not significant ($F = 0.35$, $p = <0.56$ n.s.).

Table 54

2 x 2 Analysis of variance test of between-subjects effects - **SOG** scale.

Source of Variation	SS	DF	MS	*F*	*p*
Within Cells	1982.58	24	82.61		
Group	861.90	1	861.90	10.43	< 0.004

Note. ***SS** = sum of variance; **DF** = degrees of freedom; **MS** = mean square; **SOG** = Social-Related Guilt.*

Shown in Table 54 is a 2 x 2 analysis of variance test of the differences between the recovered and re-admitted patients on the Social-Related Guilt scale which was taken two times with a 33-month interval. The results of the two-way analysis of variance demonstrated a large main effect ($F = 10.43$, $p < 0.004$) for social-related guilt on the two illicit-drug patient groups.

Table 55

2 x 2 Analysis of variance test of within-subjects effects - **SOG** scale.

Source of Variation	SS	DF	MS	*F*	*p*
Within Cells	469.44	24	19.56		
Group	25.50	1	25.50	1.30	0.265
Group By SOG	0.73	1	0.73	0.04	0.848 **n.s.**

Note. ***SS** = sum of variance; **DF** = degrees of freedom; **MS** = mean square; **SOG** = Social-Related Guilt.*

Presented in Table 55 is a two-way analysis of variance for testing possible interaction effects of first *vs.* second testing on social-related guilt scores. The results indicated that the observed significant main effect of social-related guilt (shown in Table 54) was not dependent upon any of the testing occasions ($F = 0.4$, $p = < 0.848$ n.s.).

Table 56

2 x 2 Analysis of variance test of between-subjects effects - **GPS** scale.

Source of Variation	SS	DF	MS	*F*	*p*
Within Cells	3443.76	24	143.49		
Group	92006.16	1	9206.16	64.16	< 0.0001

Note. ***SS** = sum of variance; **DF** = degrees of freedom; **MS** = mean square; **GPS Total** = total scores on the Guilt-Proneness Scale.*

To examine whether the recovered illicit-patients differed statistically from the re-admitted patients on the total Guilt-Proneness Scale which was taken two times with a 33-month interval, two-way analysis of variance was utilised (see, Table 56). The observed *F* value ($F = 64.16$, $p < 0.0001$) demonstrates a substantially large main effect for the GPS total scores. This indicates clearly that the two subject groups differed statistically in terms of their scores on guilt-proneness, as measured by the GPS, for the two testing occasions.

Table 57

2 x 2 Analysis of variance test of within-subjects effects - **GPS** scale.

Source of Variation	SS	DF	MS	*F*	*p*
Within Cells	660.86	24	27.54		
Group	121.91	1	121.91	4.43	0.046
Group By GPS Total	0.07	1	0.07	0.00	0.961 **n.s.**

Note. ***SS** = sum of variance; **DF** = degrees of freedom; **MS** = mean square; **GPS Total** = total scores on the Guilt-Proneness Scale.*

To allow for testing whether or not the observed main effect of guilt-proneness (shown in Table 57) was dependent upon particular testing occasions, a 2 x 2 analysis of variance test of within-subjects effects was employed. The results shown in Table 47 indicates that the within-subjects interaction effect of first *vs.* second testing x religious-related guilt scores was not significant ($F = 0.00$, $p = <0.961$ n.s.).

Table 58

Pearson Correlation Coefficients between the first and second **GPS** testing of the **Re-admitted Illicit-Drug-Use Patients** based on with 33-month interval.

First Testing	**Second Testing**		
	RG	**SG**	**SOG**
RG	0.771**		
SG		0.660**	
SOG			0.618*
$N = 14$			

Note: ** = $p < 0.005$; *= < 0.01;

***RG** = Religious-related guilt; **SG** = Self-oriented guilt; **SOG** = Social-related guilt; **GPS** = Guilt-Proneness Scale.*

As can be seen from Table 57, There are very high Pearson correlation coefficients between the first and second administration of all three GPS scales, with significant levels ranging from $p< 0.01$ to $p< 0.005$. The Religious-Related Guilt scale had the highest correlation, the Self-Oriented Guilt scale had the next highest and the Social-Related Guilt scale had the lowest correlation.

Table 59

Pearson Correlation coefficients between first and second GPS testing of the **Recovered Drug Patients** based on with 33-month interval.

First Testing	Second Testing		
	RG	**SG**	**SOG**
RG	0.751**		
SG		0.649*	
SOG			0.625*
$N = 12$			

Note: ** = $p < 0.005$; * = $p < 0.01$;

***RG** = Religious-related guilt; **SG** = Self-oriented guilt; **SOG** = Social-related guilt; **GPS** = Guilt-Proneness Scale.*

As shown in Table 58, the results of Pearson correlations indicate a strong relationship between scores of the first and second GPS testing.

Table 60

Pearson Correlation Coefficients between the First and second **GPS** testing for the **Re-convicted Offenders.**

First Testing	Second Testing		
	RG	**SG**	**SOG**
RG	0.71**		
SG		0.62**	
SOG			0.63**
N = 10			

Note: ** = $p < 0.005$;

***RG** = Religious-related guilt; **SG** = Self-oriented guilt; **SOG** = Social-related guilt; **GPS** = Guilt-Proneness Scale.*

Table 60 presents the results of Pearson correlation. The relationships between the first and second administration of three GPS scales are strong. Again the **RG** had the highest correlation.

Summary and Conclusions of the Results of the Follow-up Study

The comparative study presented in Chapters 12 and 13 focused on examining individual differences on guilt-proneness, as measured by the GPS, between voluntary admitted drug abuse patients, convicted drug abuse patients and a group of offenders.

The purpose of the study presented in this chapter was to provide an examination of the stability of the positive findings, discussed in Chapter 13, which relate to the role of guilt-proneness in inhibiting deviant behaviour, including criminal offending and illicit drug-taking.

Generally, the results have provided strong support as to the stability of susceptibility to guilt, as measured by the GPS, in both the illicit drug takers and offenders. Classifying drug abuse patients into two groups: re-admitted and recovered drug rehabilitation patients, *t*-tests were used to assess the mean differences between the re-admitted and recovered drug patients at the times of the first and second testing of the three GPS scales.

The second GPS testing of the two groups was carried out after a 33-month follow-up period. Two-way analysis of variance revealed highly significant differences

(p ranged between $p< 0.004$ to $p< 0.0001$) between the re-admitted and recovered groups on all three guilt-proneness subscales. This suggests a fairly strong association between level of susceptibility to guilt and readmission to the AAH for drug rehabilitation programme *versus* recovery from illegal-drug dependence. Furthermore, these results do explain, in part, how susceptibility to guilt is related to the development of the phenomena of relapse, where the recovered drug patient resumes the intake of illegal drugs after a period of complete abstinence.

Further evidence has emerged from an examination of the stability of the GPS score, over the follow-up period, for each group separately. Pearson correlation coefficients demonstrated a strong relationship between scores on each guilt subscale at the times of first and second testing. Thus, it is apparent that the GPS provides some predictive power of guilt-proneness assessment.

Accordingly, it can be concluded that these findings do support the theoretical notions relating to the inhibitory function of guilt. On the other hand, these findings support the theoretical position that individuals with low guilt-proneness are vulnerable to involvement in deviant behaviour such as drugs or crime. Since low-guilt-proneness has been associated with psychopathy (e.g., Cleckley, 1976; Craft, 1965; Buss, 1966; Farrington, 1994; Hare, 1980, 1985; Hare & Cox, 1978; McCord & McCord, 1965; Yochelson, Samenow & Aronson, 1976), it is no surprise from the present findings to observe a link between relapse (readmission) and having low scores on the three GPS scales.

With regard to the offender group, Pearson correlation coefficients have demonstrated a strong and significant relationship ($p< 0.01$) between the GPS scores

of the Recidivists, taken at the first and the second testing with a 33-month interval. This indicates a remarkable stability in level of guilt-proneness for the recidivist group. Moreover, the present findings have demonstrated further the effectiveness of the GPS as a measure of guilt-proneness in predicting the occurrence of a particular class of behaviour.

Chapter Fifteen

STAGE THREE:

Individual Repertory Grid Analysis of a Sample of Drug Abusers and Offenders Varying in their Guilt-Proneness Scores

Purpose:

In a preceding chapter I have been concerned with the investigation of guilt-proneness as measured by the Guilt-Proneness Scale (GPS) in voluntarily admitted drug abuse patients, convicted drug abusers, a group of young criminals, and a group of normal controls. The findings have shown that the voluntarily admitted drug abuse patients manifested significantly higher guilt-proneness than either the convicted drug abusers or the young criminals. They displayed significantly higher scores on the subscales for religious-related guilt ($t = 7$, $p< 0.001$), self-oriented guilt ($t = -6.2$, $p< 0.001$), and social-related guilt ($t = -15.9$, $p< 0.0001$) than the convicted drug abusers. Similarly, the voluntarily admitted drug abuse patients also manifested significantly higher scores on the subscales for religious-related guilt ($t = 7$, $p< 0.001$), self-oriented guilt ($t = 5.4$, $p< 0.001$), and social-related guilt ($t = 13.3$, $p< 0.0001$) than the young criminal group.

The results suggest that guilt-proneness does, in fact, relate to motivating drug-abusing individuals to seek ways of abandoning the use of illicit drugs. These findings were strongly confirmed in the 33-month follow-up study (results are reported in the preceding chapter).

These findings did support the hypothesised inhibitory function of guilt-proneness suggested by Mosher (Mosher, 1965, 1967, 1980); and are in agreement with the findings of studies which suggest a systematic relationship between the strength of guilt-proneness and the degree of involvement in crime or drug abuse (Althoff, 1975; Fehr, 1988; Heitun, 1985; Mosher and Mosher, 1967; Persons, 1979; Ruma, 1967; Ungerer, Hardford, Brown, and Kleber, 1976).

So far this investigation has involved the use of a *nomothetic* approach, which is the most common practice in psychological research, where the main concern in the investigation is most often directed towards drawing general profiles of subjects in terms of measurable traits (see, Nunnally, 1970, p.355-356). This means that possible variation within the individual is not directly exposed to observation. In clinical practice, however, both assessment and treatment procedures have to involve a close contact with individual cases and in most instances entail the use of an *idiographic* approach, where the major emphasis is directed towards extracting individual profiles. Here the analysis essentially involves the consideration of variation within the individual; but with less emphasis on variation between subjects.

From a clinical point of view, it would be valuable to determine whether the GPS, as a measure of guilt-proneness, is able at an individual level, to predict the extent to which the drug abuser is willing to consider abandoning the use of illicit drugs. Similarly, I am interested to see whether guilt-proneness can also provide a valid prediction, at individual level, of the extent to which the

young criminal offender is willing to consider giving-up involvement in anti-social acts.

In order to allow for a suitable examination of such predictions, at individual level, we have utilised an *idiographic* approach based on personal construct theory (Kelly, 1955, 1965).

Personal Construct Theory (PCT): Background

Personal construct theory (PCT) was originated as a theory of personality by George Kelly. The major principles of his theory are explored in his book *The Psychology of Personal Constructs,* published in 1955. Later, PCT was popularised by a number of psychologists, especially by Kelly's British disciples such as Bannister and Fransella (e.g., Bannister & Fransella, 1986, Fransella, 1968, 1972; Fransella & Bannister, 1977), Heather (Heather *et al.,* 1975), Mcpherson (1972), Mair (e.g. Mair, 1970), Ryle (e.g., Ryle, 1978) and Winter (e.g., Winter, 1983, 1992).

PCT consists of one basic postulate and eleven corollaries. The basic postulate states that "A person's processes are psychologically channelized by the ways in which he anticipates events" (Kelly, 1955, p. 47).

In Kelly's view, the individual strives to make sense out of his/her universe, out of himself, out of others, or out of the particular situation he encounters. Accordingly, he/she invents and re-invents an implicit theoretical framework.

Regardless of whether it is well or badly designed, it is the individual's personal construct system (Kelly, 1963).

A "construct", according to Kelly (1970, p. 13), is seen as a basic contrast between two or more elements (i.e., people or events). The construct, thus, serves both to distinguish between its elements and to group them. Kelly (1955) emphasises the notion that constructs are bipolar. His argument is that the person makes sense out of his world by simultaneously noting likeness *and* differences.

For Kelly, understanding another person is achieved to the extent that we know how they go about the task of making sense of their world. Kelly views man as a *scientist*: He or She is actively engaged in construing events and generating miniature theories to predict, control, and understand their own behaviour and that of others.

Kelly emphasised the importance of the psychotherapist's learning to understand the construct system of his patient. In order to help the patient, the therapist must understand the nature of the constructs and dimensions the patient uses to interpret events and experiences. Kelly stated his view as follows:

> "Now a good therapist must frequently, among other things, be accepting of his client. He should attempt to anticipate events in the way the client anticipates them. He should try to employ the client's vocabulary in thinking about the issues which the client sees himself as facing. He should give words the meanings that the client gives them...." (Kelly, 1955, p. 587).

Construct theory has offered accounts of the causes and cure of a number of clinical disorders. For example, PCT has been employed in the study of

stuttering (Dalton, 1983; Fransella, 1968, 1972; Ham, 1990; Hayhow, 1989; Levy, 1987; Meshoulam, 1978), the nature and origin of schizophrenic thought (Bannister and Fransella, 1966; Space, Dingemans, and Cromwell, 1983; Gara, Rosenberg and Mueller, 1989; Space, Dingemans, and Cromwell, 1983), and it has generated a completely new individual difference measure- 'cognitive complexity' (Adams-Webber, 1969; Canter, 1970; Mueller, 1974; O'Keefe, 1981).

The Repertory Grid Technique

Kelly (1955) has provided a measuring technique of how the person construes people and events. The technique is called the Role Repertory Test or 'Rep Grid'. It is modifiable and adaptable to serve particular research problem (Bannister, 1965, p.977; Bannister and Fransella, 1977, p. 12; Easterby, 1980, Pope and Keen, 1981, p. 36; Slater, 1965, p. 968; Winter, 1992, p.22).

Bannister and Mair (1968) define a repertory grid as "any form of sorting task which allows for assessment of relationships between constructs and which yields these primary data in matrix form" (Bannister and Mair, p.136).

Repertory grid technique is, thus, a method of quantifying and mathematically analysing relationships between the categories used by the subject in describing people and events. It is essentially a structured interview procedure which enables the investigator to access the way in which the subject views the world. Fransella and Bannister (1977) characterise the grid method as follows:

"The grid is perhaps best looked on as a particular form of structured conversation. In talking to each other we come to understand the way the other person views the world, what goes with what for him, what implies what, what is important and unimportant... The grid formalises this process and assigns mathematical values to the relationships between a person's constructs. It enables us to focus on particular subsystems of construing and to note what is individual and surprising about the structure and content of a person's outlook on the world." (Fransella and Bannister, 1977, p. 4) .

Based on the descriptions of how the repertory grid is administered, which are given by both Kelly (1955) and Bannister and Fransella (*A Manual of Repertory Grid Technique*, 1977), a general account of the procedure will be provided here.

The first step in the procedure is normally to elicit from the subject a list of *elements* or aspects of their experience. These elements usually represent people known personally to the subject, or else specific situations, depending on the nature of the investigation. Having produced a list of elements, the subject is then generally given three of these and asked in what important way two of them are alike and thereby different from the third. The procedure is then repeated with another triad of elements until a sufficient number of constructs has been elicited. The contrast pole of each elicited construct may then be elicited by asking how the subject would describe the third element. They are then asked what kind of people are described by the two construct poles thus elicited and what characteristics described people who are opposite of these. The procedure may then repeated with this new set of constructs. This is often done by either *ranking* or *rating* the elements on the constructs (Bannister and Fransella, 1977, pp. 30-43). At this stage all of the constructs are, usually, applied to all of the elements, to give a rectangular matrix of rankings or ratings.

The completed grid form may be analysed by a number of statistical techniques, such as Cluster Analysis (Leach, 1989; Shaw, 1980), Principal Component Analysis (e.g., Bannister and Fransella, 1977; Ryle, 1975; Slater, 1965), and other correlational techniques (e.g., Bannister, 1960; Chambers, 1983; Dingemans, Space, Cromwell, 1983; Makhlouf-Norris *et al.*, 1970; Makhlouf-Norris and Norris, 1973; R. Nemeyer *et al.*, 1985).

In addition to the global analysis of the grid data, a variety of specific grid measures may further be evaluated. These include, for example, "Intensity" (Bannister, 1960), "Cognitive Complexity" (Bieri *et al.*, 1966, p.185), "Articulation" (Makhlouf-Norris *et al.*, 1970), "Self-Integration" (Makhlouf-Norris and Norris, 1973), "Negative Self-Construing" (e.g., R. Neimeyer *et al.*, 1985), and "Self-Conflict" (Fransella and Crisp, 1979).

As noted that above, the grid technique is flexible and adaptable. Thus, the Role Construct Rep Test originated by Kelly (Kelly, 1955) has been elaborated in many ways, serving particular research questions. A distinctive feature of the Rep Grid technique is that although it was originated in the Western culture, it can be regarded as flexible, and relatively free from cultural specificity (Bannister and Fransella, 1986; McCoy, 1983, p. 173).

In summary, the repertory grid method can be characterised as a technique that enables the individual to reveal his own judgement, in his own vocabulary, regarding some important set of *elements* in his own experience.

Integration between the PCT Methodology and Personality Scales

Personal construct theory has been utilised widely as an independent psychological approach to the study of human functioning. However, there has been relatively little research in respect to the employment of PCT and its methodology (Rep Grid) in conjunction with other psychological approaches in general, and in personality measures in particular. Perhaps one reason for this, is the general view held by many leading PCT theorists which tends to portray PCT as 'revolutionary' to contemporary psychological approaches. Such a view was expressed, for example, by Bannister and Fransella (1985):

> "It is a theory which attempts to redefine psychology as psychology of persons.", "It is not a theory of 'learning', of 'development', of 'perception'. It is certainly not a 'cognitive' theory." (Bannister and Fransella, 1985, p. 4).

Nevertheless, some research has provided considerable evidence for the value of incorporating information derived by PCT methodology with information that is based on other methods of psychological inquiry. This has been especially the case for research pertaining to the use of the repertory grid in examining the validity of personality tests or vice versa. For instance, Caplan, Rohde, Shapiro and Watson (1975) have investigated the extent to which data from Rep grids relates to information gathered by tape recording, as a measure of communication level. They reported significant correlations (ranging from $r = 0.54$, $p< 0.05$ to $r = 0.794$, $p< 0.01$) between six grid variables and variables derived by an independent measure in the form of tape recording.

In another investigation, Smail (1972) examined the relationship between two measures of empathy, obtained in the form of the patient's rating, the

therapist's rating, and a measure of empathy based on Rep grid. A very high correlation was reported by Smail between empathy measured by Rep grid and by the patient's rating ($r = 0.90$, $p < 0.01$). The correlation between the therapist's rating of empathy also correlated strongly with empathy as measured by Rep grid ($r = 0.83$, $p < 0.05$). Moreover, Smail reported a similarly high correlation between grid empathy scores and a questionnaire measure (DIQ) of thinking-introversion ($r = 0.83$, $p < 0.05$).

Further more, Ryle and Breen (1972) have demonstrated grid indicators of neurosis to be significantly correlated with both patient scores on the Middlesex Hospital Questionnaire (MHQ) and patient's diagnostic status for neurosis. The correlation coefficients between the MHQ scores and Rep grid variables were reported to range from $r = 0.26$, $p < 0.05$, to $r = 0.423$, $p < 0.01$.

In a study conducted with 30 German neurotic clients, Catina, Gitzinger, and Hoeckh (1992), have demonstrated that assessment of defence mechanisms based on a questionnaire measure (SBAK) was consistent with grid measure of defence mechanisms. Catina *et al.* reported significant correlation coefficients between the SBAK and grid variables (ranging from $r = 0.38$, $p < 0.03$, to $r = 0.64$, $p < 0.01$).

More recently, Winter (1992, 1983) has found a significant, though moderate, correlation between guilt, as measured by the guilt subscale of the Hostility and Direction of Hostility Questionnaire (HDHQ; Caine, Foulds, and Hope, 1967), and discrepancy in the use, in the grid, of "self" as an element and "self" as a

construct (as an indication of guilt). His study was based on 64 neurotic outpatients.

While these studies do show the potential for PCT to contribute to general psychology, especially to test validation, they reflect the rarity so far, of research in this field. The present research will now build on the example of these studies and attempt to investigate the relationship of the individual's level of guilt-proneness (GPS scores) to his personal construct system.

The application of PCT to the study of Drug Addicts and Offenders

PCT has been useful in dealing with a wide varieties of research problems. Winter (1992), in his review of studies on PCT, mentions more than 700 published grid studies, relating to various clinical problems, conducted between late 1960's and early 1990's. However, in general, the study of drug addicts or criminals remains a rather neglected field in PCT.

Available research concerning the analysis of the personal construct system of the drug abuser, and offender populations will be reviewed here.

(1) Drug Abusers

Using the repertory grid technique, Ryle (1975) reported two clinical cases for which this technique was employed to discover whether the patients had a clear motive for giving up taking illicit drugs. The first case was a twenty-two year old girl living with her boy-friend, both using marijuana and LSD regularly and experimenting with other types of illicit drugs from time to time. The grid was designed to contain the elements: "self on drugs", "real self", "self as boy-friend would like me to be", "self I fear I might become", and the "ideal self". A number of constructs were elicited from this patient including: *moral, short-tempered, nervy, imaginative, emotional, loving, understanding, having self-knowledge,* and *logical*. The results of the patient's grid, based on principal components analysis, indicated that the element "real self" identified with the "mother" element in terms of being seen as *emotional, nervy, moral* and *short-tempered*. In addition, the element "father" was construed as *quiet* and *reserved* and as similar to the element "the self I fear I

might become". The "ideal self" was closely related to the "boy-friend", but very dissimilar to the "real self".

In conclusion, Ryle reported that the pattern of construct-element interactions suggested a 'splitting mechanism' with the bad self identified with the mother and the good self with the boy-friend. It was also found, from the analysis of this patient's grid, that "the self as boy-friend would like me to be" was closely related to the ideal self. Hence it was concluded that this patient would not be responsive to changing her drug-abusing role. Ryle (1975) writes:

"While the underlying mechanism is unresolved, drugs have the effect of reducing the dissonance between the Self she sees as real and the Self She Would Like To Become, whereas drug use does not move her in the direction he / she fears." (Ryle, 1975, p.72).

The second case reported by Ryle was a male drug abuser. Elements employed were the same as in Case One except for a change to the element "self as boy-friend would like me to be". The analysis of this patient's grid, as reported by Ryle, revealed that the construct *enjoys life* contrasted with *confused, depressed, violent and angry*. The elements ideal self, the girl-friend and two male friends loaded strongly on the positive end of this construct; while at the negative end were found the "mother", the "self I am afraid of becoming" and the "self on drugs". The "real self" was located half-way between these two poles. The conclusion given in this case was that a strong negative evaluation of the drug experience was revealed and therefore real willingness to give up the use of illicit drugs was evident.

Hoy (1973) used constructs provided by the investigator rather than elicited from the subjects, along with a standard set of photographs, to investigate how alcoholics construed themselves in terms of several contrasts. These included 'weak character *vs.* strong character', alcoholic *vs.* moderate social drinker', and 'not like I am *vs.* like me in character and personality'. Hoy found that alcoholics tended to construe other alcoholics as *weak, sexually frustrated, lonely,* and *unhappy* but not significantly like themselves as a group (although there were significant relationships for individuals).

A repertory grid study conducted by Goggins (1988), has demonstrated that heroin users display less logical inconsistency in their constructs than do ex-users, particularly in relation to their construing of themselves as drug users. The change of pattern of construing in drug addicts has also been studied by Bennett, Rigby and Owere (1990).

Landfield (1971) reported an exploratory study with five alcoholics. He found that three of these subjects had simplistic construct systems which were not useful in making discriminations between people or for understanding and predicting behaviour. One of the other two subjects displayed a highly elaborate construct system, so complex that few similarities were seen between people or between descriptive constructs. When the thematic content of his subjects' constructs was examined, Landfield (1971), found that the five alcoholics in this study relied heavily on constructs characterised by over-concern about responsibility and morality.

Glantz, Burr, and Bosse (1981) also looked at the construct systems of alcoholics, comparing them to non-alcoholic outpatients. These researchers found significant group differences in both structural and content measures of the subjects' construct systems.

Heather, Edwards and Hore (1975), in a study of self construal in relation to alcohol use, used a standard set of provided constructs which included aspects of self constructions and role constructions of drinking. They derived a factor designed to differentiate subjects on the basis of the way they identified themselves in relation to alcoholism and style of drinking. They found that the successfully treated patients were the ones who made a clear distinction between alcoholics and others.

Blum (1980) used a self construing inventory to study changes in self-esteem and the relationship of those self-esteem changes to the perceived positiveness of various sober and drinking roles in 50 male alcoholic in-patients in a 30-day treatment programme. Blum examined both changes in self esteem and the relationship of the alcoholic's self-esteem to his ideal self and his perception of the positiveness of various drinking roles. Blum was interested in examining whether the degree of agreement between the alcoholic's self-esteem and his ideal self was related to the alcoholic's anticipation (expectancy) for the role of sobriety.

Blum's prediction that positiveness of self, ideal self and the role of the recovered alcoholic would correspond closely in clients for whom prognoses were good, but not among other alcoholics, was confirmed when the

counsellor's prognostic ratings were utilised as the criterion. Furthermore, Blum's prediction that the good prognosis patients would develop a negative relationship between their self positiveness and their perception of their past drinking roles, was also confirmed.

(2) Criminal Offenders

A number of researchers have utilised the repertory grid technique in investigating the personal construct systems of offenders (D. Kelly and Taylor, 1981; Norris, 1977; Ecclestone, Gendrau, and Knox, 1979; Klass, 1980), and of long-term prisoners (Watson, Gunn, Gristwood, 1977).

Using repertory grid technique, Klass (1980), found that socially deviant individuals may be more likely than others to view their transgressions as justifiable. He also found that people with a history of drug abuse anticipated more negative reactions to transgressions involving harming liked persons than those involving harming disliked ones, whereas normal subjects did not discriminate between different types of transgression.

A grid investigation by D. Kelly and Taylor (1981) found evidence that teenagers who borrow cars and drive them illegally while under-age, tend to see their behaviour as exercising a desired self-image. Miller and Treacher (1981) found in delinquents a tendency to identification with television heroes who embody the ideal of direct and forceful action; real-life adults were seen as less adequate role models.

Testing the hypothesis of a role-taking deficiency in psychopaths, Widom (1976) found, through the use repertory grid technique, that primary psychopaths erroneously believe that other people view situations as they do. Studies of attitudes of rapists by Hegeman and Meikle (1980) suggest that some rapists do not regard themselves as guilty of a criminal act.

Norris (1977) applied the Rep grid technique in the study of 50 young offenders. Her main aim was to test changes towards a less delinquent life style by examining improvement in the relationships with parents and peers. The results reported by Norris indicated that there was a trend to increase perceived similarity of offender to family members, rather than to increase identification with peers.

In their study of long-term prisoners, Watson, Gunn and Gristwood (1977), used two forms of grids: individual grids and a consensus grid (Slater, 1977) to investigate whether unpleasant affective status, rather than aggressive or negativistic actions, were indicative of perceived causes of criminal acts. It was found that the former was the case. There were important characteristics extracted from the analysis of the consensus grid. For example, it was found that thieving was seen as a specific response to lack of accommodation, money and work, and for punching and smashing up to be associated with being laughed at, rudeness and fights. Similar studies were conducted by Ecclestone, Gendrau, and Knox (1979) on Canadian young offenders.

To conclude, the studies reviewed above demonstrate that research on deviancy which has utilised PCT and its measuring instrument (the Rep Grid) has not only advanced our understanding of the psychology of drug addict and criminal individuals at a diagnostic level, but also indicated ways in which PCT may be translated into treatment strategies.

I have pointed out that several studies have employed the PCT methodology in conjunction with other methodology, derived from other psychological approaches, particularly in the process of testing the validity of measurement. The available studies relating to the study of drug addiction and to offending have also been discussed. Such a body of research demonstrates the value and distinctive role of PCT and its methodology in research and clinical settings, and suggests that, contrary to the inclination of some of its foremost practitioners (e.g., Bannister and Fransella), the PCT approach can be drawn upon even in studies which are primarily nomothetic in focus.

In the present study we shall now turn to a close study of the construct systems of a sample of six individual cases, as they have emerged from the repertory grid technique. I specifically examine whether the patterns of construing concerning drug abuse and involvement in crime relate to the client's level of guilt-proneness (as measured by the GPS). In other words, we will examine whether 'attitudes towards drugs and towards crime', as revealed by their repertory grids, show any clear relationship to the subject's score on the Guilt-Proneness Scale (GPS). The hypothesis was based on the foregoing body of research findings, and, in accordance with our findings, emerged from the comparative study which involved the examination of guilt-

proneness (measured by the GPS) in offenders, in two groups of drug abusers, and in a normal control group (reported in Chapter 12).

The hypothesis I now propose is that the subject's guilt-proneness, as measured by the GPS, should be reflected in the strength of his attitudes towards the use of illicit drugs or criminal offending.

Method

Sample

(1) Selection of Subjects

Subjects who participated in the repertory grid testing were part of a larger group of young drug abusers (N=82) who also took the Guilt-Proneness Scale (GPS) and some related measures 2-4 days prior to the repertory grid testing. These young drug abusers were participating voluntarily in the drug rehabilitation programme at the al-Amal Hospital in Riyadh. The original group of drug abusers were classified, according to their overall score on the GPS, into three groups as follows: (**a**) High guilt subjects, (**b**) Medium guilt subjects, and (**c**) Low guilt subjects. The *quartile range* criterion was employed in classifying the subjects into these three categories.

Since the main aim of this part of the research project was to employ a PCT methodology, as represented by an *individual* repertory grid analysis, to further investigate the GPS potentiality in predicting the strength of attitudes towards the use of illicit drugs/commission of crimes, it was decided to select, on a random basis, a small number of participants.

It was also decided that by adopting an *individual* repertory grid approach with a small number of subjects, more elaborated analysis of each individual case would be possible.

Three drug rehabilitation subjects were drawn randomly from each of the three guilt-proneness groups. That is to say, 3 Ss from the high guilt group, 3 Ss from the medium guilt group, and 3 Ss from the low guilt group.

Three young criminal offender subjects at the Riyadh Social Observation Centre were also selected in the same method described. However, due to the unavailability at the early time when testing was possible, of two of those offenders and four of the drug abusers, testing was carried out with the remaining six subjects.

(2) Characteristics of Subjects

The five drug abuse patients and the one offender who participated in the present repertory grid study were young men who were unmarried. They ranged in age from 18 to 23 years. Based on therapists' judgement at both the al-Amal Hospital and the Social Observation Centre, these subjects showed no evidence of mental retardation, or of organic brain damage. Their educational level ranged from the third grade of junior high school to the second grade of high school. A brief account of the case background for each subject will be provided in a later section.

Materials

Participants each completed a repertory grid test (Kelly, 1955) which was adapted to the current research focus of examining the drug addict's construct system as related to his attitudes towards the use of illicit drugs, or, for the offender, towards transgression. The items used for administering the repertory grid test included the following: 13 X 16 grid format arranged on

A3-sized graph paper, thirteen 5" X 5" cards in which elements (role figures) were printed, sixteen 2" X 3" index cards used for recording constructs, and pencils.

Design of Repertory Grid

The grid in the present study was essentially based on Kelly's technique (Kelly, 1955). However, the version used was adapted to the current research focus.

Although Kelly's original grid test includes twenty-four specified role figures, i.e., persons, as elements, late Rep grid researchers have used the technique with various modifications to meet particular research /therapeutic problems. There have, for example, been a variety of other elements used, such as: situations (Fransella, 1972; Parker, 1981), relationships (Ryle and Lunghi, 1970), facets of the self (R. Neimeyer, 1983), particular persons or relationships at different point of time (Slater, 1970; Ryle and Lipshitz, 1975), and types of jobs (Smith *et al.,* 1978). For the present study, elements were selected so that the drug addict's view of drug experience could be tested. Initially, 18 role figures, known to the subject personally, with particular characteristics, were proposed. Five elements represented figures that relate to drug addiction phenomena. The remaining 11 elements were selected to include different role figures based on five different *sorts* of elements described in Kelly's original Rep Test (Kelly, 1955)[2].

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[2] Kelly (1955) provided a rationale for each of the triads (or sorts) which the subject is asked to compare and they are arranged in seven grouping categories as follows: 1. Self, 2. Family, 3. Intimates, 4. Sitiuationals, 5. Valencies, 6. Authorities, and 7. Values.

These element sorts were as follows: (1) *Intimate Sort,* (2) *Situational Sort,* (3) *Value Sort,* (4) *Valencies Sort,* (5) *The Self sort.* Because the self sort has been found to play a key role in identifying important aspects of the subject's construct system (e.g., Klass, 1980; Makhlouf-Norris & Norris, 1973; Marsh & Stanley, 1995; Neimeyer *et al,* 1983; R. Neimeyer, 1985; Space & Cromwell, 1983; Ryle & Breen, 1972), this *sort* was extended to include three different aspects of the self[3]. These three aspects represent: Past self (Me before was involved in drugs), Current self (Me now), and Ideal self (Me as I would like to be).

However, in the light the work of some repertory grid researchers (e.g., Shaw, 1981), as well as pilot interviews conducted with three subjects in the present study, it was judged that self elements are best presented as constructs rather than as elements. The reason is that it is often far less easy to ask the subject to rate himself on a construct that carries a meaning which he/she would feel offended by. If the subject, for instance, was asked to rate himself on the construct '*bad*', he may produce a superficial response (due to social desirability being elevated), or may provide no answer, which is not helpful either. Therefore, it was decided to present the self element as a *supplied* construct.

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[3] In Kelly's 'Role Construct Repertory Test' (Kelly, 1955), the *self sort* was limitted to one element (i.e., self)

The 13 elements and 3 supplied constructs used in the repertory grid were for the drug-abusers as follows:

Elements

1. A person who is liked by most people.
2. An unhappy person.
3. A religious person.
4. A person who has little commitment to religious values.
5. A friend of mine who is a drug addict.
6. A person who does not take drugs.
7. A person who has given up taking drugs.
8. A successful person.
9. A close friend of mine.
10. A disliked person.
11. A person from whom I used to get drugs.
12. An honest person.
13. An impulsive person.

Supplied constructs

1. Like me before I became involved in drugs.
2. Like me as I am now.
3. Like me as I would like to be.

For the young offender, the supplied Construct 1 consisted of the statement: Like me before involvement in offending. Elements 5, 6, 7, and 11 included the following:

5. A friend of mine who is an offender.
6. A person who has never been involved in crimes.
7. A person who used to commit crimes
11. A person who used to encourage me to offend.

The grid form used in the present study was a rating grid (explained in Fransella and Bannister, 1977; Hjelle and Ziegler, 1976; Shaw, 1981). The elements were rated on a 5-point scale ranging from 1, meaning very like the negative pole, to 5, meaning very like the positive pole of the construct. During the administration of an initial version of the grid, some difficulties regarding the process of sorting elements, listed on the grid form, was observed. This was overcome by rearranging elements on 5" X 5" card.

Procedure

Arrangements for obtaining access for gathering data both from patients at the al-Amal Hospital (AAH) and from young offenders at the Social Observation Centre in Riyadh, were made with the relevant authorities in advance (samples of correspondence with the departments concerned are found in *Appendix* **U**).

The GPS administration and the repertory grid testing was carried out within the first week of the patient's arrival at the AAH or at the Social Observation Centre. The completion of the Rep grid testing procedure involved two separate sessions. The first session was conducted with each subject. It was aimed at establishing rapport with the patient and introducing him to the testing technique. This interview constitutes an essential stage of the preparation of the final version of the Rep Grid used in this study. It was intended to serve two main functions: firstly, to check whether all elements in the grid were familiar to the patients, secondly, to probe the subject's general reaction to the test and to record any difficulties which might arise, so that appropriate changes could be made.

Testing was not initiated until the patient, newly admitted, was stable enough in drug-withdrawal symptoms, and was able to cooperate fully. The five drug-abuse patients and the juvenile offender each participated in the testing voluntarily. Anonymity was guaranteed. Participants were reassured that no personal names would be used in reporting the results of their grid data. The repertory grid testing was carried out in individual sessions which lasted for approximately 2.5 hours and were interrupted by a 10-minute break. For the convenience of the patients, Rep Grid interviews were usually conducted between 5 and 9 p.m.

The administration of the repertory grid began by asking the respondent to specify the names of thirteen figures, personally known to him, who most nearly filled the following roles in his or her life. (**1**) A person who is liked by most people, (**2**) An unhappy person, (**3**) A religious person, (**4**) A person who has little commitment to religious values, (**5**) "A friend of mine who is a drug addict", (**6**) A person who does not take drugs, (**7**) A person who has given up taking drugs, (**8**) A successful person, (**9**) "A close friend of mine", (**10**) A disliked person, (**11**) "A person from whom I used to get drugs", (**12**) An honest person, (**13**) An impulsive person. Where the respondent was able to name more than one person, he then was asked to consider the one for whom the specified role was most characteristic.

Once this was done, the triadic technique of construct elicitation was used (this technique was expounded by Kelly, 1955; also discussed in Button, 1985; Fransella and Bannister, 1977; Winter, 1992). The investigator systematically drew the participant's attention to three of the role figures and

asked him to indicate some important way in which two of them were alike and thereby different from the third (each time, three element cards were laid out on the table in front of the respondent). Contrast poles of elicited constructs were then elicited by asking the participant in what way the third person differed from the two other people. The respondent was told that it was important only to make the distinction (the construct) that he chose and that no attempt to explain these in detail to the investigator was necessary. Each subject's verbal label for each pole of construct elicited was recorded on a small card and given a number

After all constructs had been elicited, the participant was asked to rate each construct on a five-point scale in terms of the degree to which the construct described each of the thirteen role figures (elements). Care was taken to clarify the use of the rating scale. The process of rating elicited constructs, as well as the three supplied self constructs, continued in the manner explained above until all role figures had been rated on a total of 16 constructs.

Statistical Analysis of Grid Data

Cluster Analysis

The grid data were analysed primarily by means of Hierarchical Cluster Analysis technique. The analysis was conducted through the medium of the SPSS program. To provide a visual illustration of results obtained by cluster analysis for each individual case, I adapted the method of plotting cluster trees of elements and constructs around the rearranged grid data matrix (Leach, 1980; Shaw, 1979, 1980).

Furthermore, to provide a clear visual picture of how constructs were clustered in terms of elements and vice versa, the raw grid data, for each subject, were organised in a *rearranged grid* matrix. This was done in two steps. First, the values and labels of certain constructs were reversed. Second, after performing cluster analysis on the data, the constructs (rows) and elements (columns) were rearranged according to the order of constructs and elements which emerged in the cluster tree. Next, each construct was plotted adjacent to the constructs to which it was most similar, and the same was done for elements.

In addition, the author assigned three levels of grey scale (i.e., dark grey, dots and plain-white) to designate the various rating values used in the grid. This was arranged as follows: (**a**) a grey colour is assigned where a construct was given a rating of 5 or 4. (**b**) dots forming a mid-grey are assigned where the construct was given a rating of 3. (**c**) a white colour (the plain of the paper) is assigned where the construct was given a rating of 1 or 2. This was done in order to make meaningful patterns as clearly evident as possible in the rearrange grid.

Principal Component Analysis

The method of principal component analysis has been widely used, as a way of explaining grid data, by PCP researchers (e.g., Bannister and Fransella, 1977; Ryle, 1975; Slater, 1965). This method is preferred to the other methods of component extraction (Such as Maximum Likelihood or Least Squares), because it is less demanding for the normality of distribution (Child, 1990; West, 1990). It is also more appropriate for analyses involving small number of observations (constructs in this case)- which is almost the case for all grid data. Principal component analysis was used, in the present study, as complementary to the cluster analytic examination of the grid data.

To explore possible underlying components in the construct subsystem of each case in the present study, a principal component analysis, using the SPSS program, was carried out on the 16 X 16 construct correlation matrix (based on Pearson's *r*) for each case. To determine the number of meaningful components in the initial analysis of each grid data, the Scree Test (Cattell, 1966) was employed. Subsequent analysis was restricted to the number of factors identified by the Scree plot and the resulting factors were then rotated through the Varimax method. This approach was judged superior to the more common practice in Rep grid work of always extracting 2 factors simply because these can be plotted conveniently on a paper.

Construct Intercorrelation

A further grid measure involving the examination of the pattern of relationships among constructs, was utilised. To allow for the implementation of such a measure, construct intercorrelation using Spearman's *rho* was computed.

Results

Case 1: Mr. NA

Case background

Mr. NA was twenty one years of age. He began experimenting with various types of illicit drugs, including cannabis, alcohol and heroin, when he was eighteen. Until recently, he used to regard drinking as part of his life style, though he prefers to keep his habit 'private'. He expressed the fact that he likes to engage in social occasions and likes travelling and making new friends. He enjoys sport activity at AAH. When the author learned that the arranged appointment for his first interview would clash with his sport session, the author decided to defer the appointment to another day. When his father discovered that he was involved in drugs he tried several ways to prevent him from his habit. He tried to disconnect him from certain 'suspected' friends, but failed to gain any positive response from Mr. NA. When his father cut down the amount of money he used to give him, Mr. NA sought other means of financing the highly priced drugs; he began to befriend drug addicts from wealthy families. He has gradually recognised his heavy drinking problem and decided to attended the AAH's drug rehabilitation programme.

Cluster Analysis*

Figure 16 shows Mr. NA's grid, rearranged in the light of its hierarchical cluster analysis, with the cluster analyses of its constructs and elements. It can be observed that two main clusters of constructs emerge in Mr. NA's grid. The first cluster, the largest, consists of 13 constructs (81.25% of the total number of constructs). This cluster comprises: *Successful vs. Unsuccessful, Inconstant, Liked vs. Least like, Serious vs. Not serious, Responsible vs. Irresponsible, not Impulsive vs. Impulsive, Bad-tempered vs. Not, Not hasty vs. Hasty, Active person vs. Not active, Very Religious vs. Less religious, Quiet vs. Very outspoken, Not drug addict vs. Drug addict,* and *Thoughtful vs. Thoughtless.*

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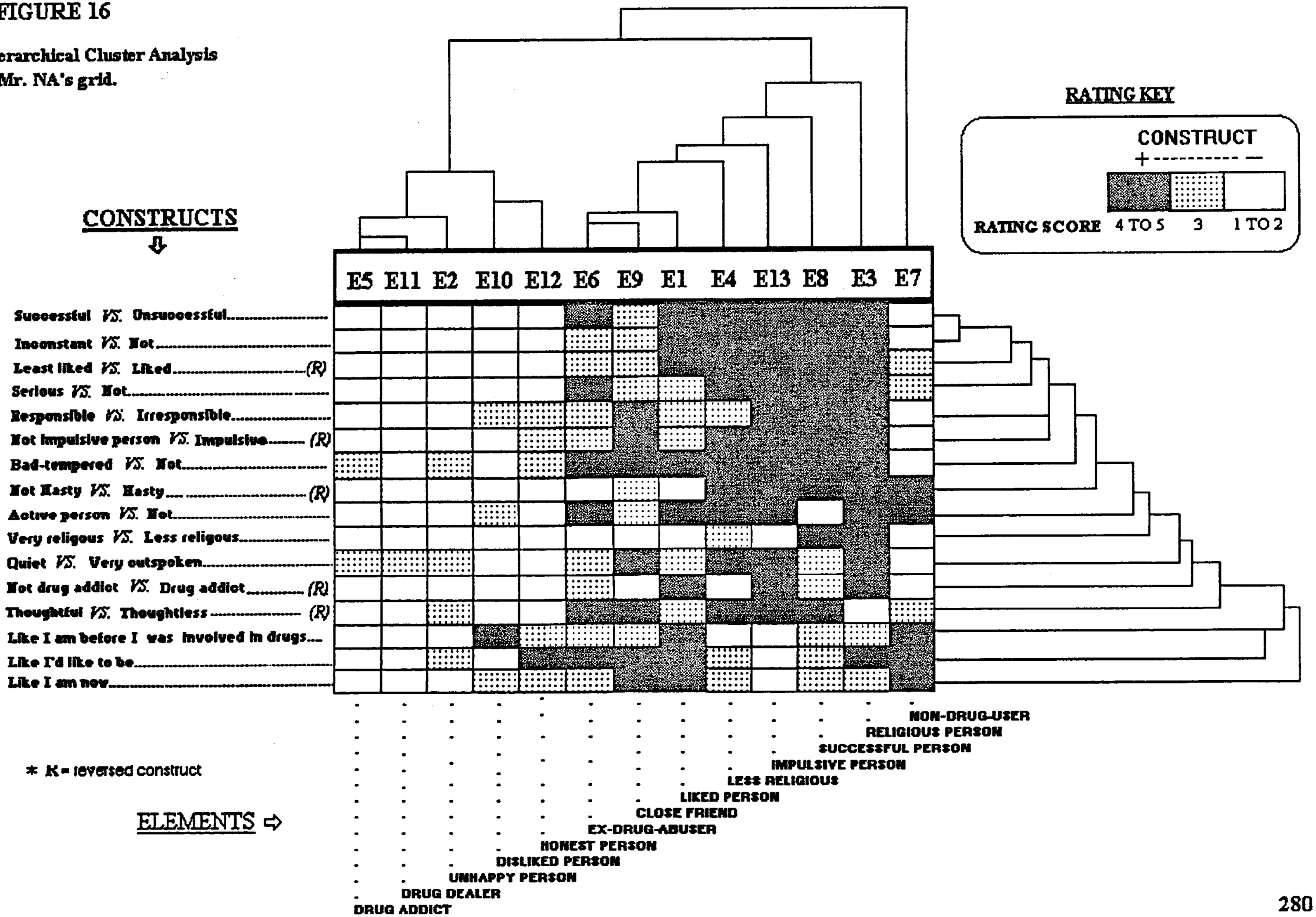
* Note. Italic fonts are used to denote the subject's Elicited Constructs. Elements and Supplied Constructs are presented in regular fonts.

FIGURE 16

Hierarchical Cluster Analysis of Mr. NA's grid.



It can be seen that, in Mr. NA's construct system, the Least liked Person can also be characterised as *serious, responsible, not impulsive, very religious, quiet,* and *not drug addict.* In addition, for Mr. NA, the constructs *successful* and *inconstant* were closely related (they were the first to form in the first cluster).

The second main cluster of constructs consisted of two aspects of the self: *Like I was before I became involved in drugs,* and *Like I'd like to be.* This indicates that both his past and ideal self were, to a large extent, less dissimilar to constructs that have positive qualities such as *Liked vs. Least like, not drug addict, Serious, Responsible, Active person, Thoughtful,* and *Successful.* Moreover, his current self (*Like as I am now*) was the most dissimilar to constructs which belonged in the first cluster The current self appears as a relatively isolated construct which does not belong to any of the two main subclusters.

As shown in Figure 16 there are two main grouping of elements (role figures). The first contains the elements: Drug Addict, Drug Dealer, Unhappy Person, Disliked Person, and Honest Person. Mr. NA construed these role figures as almost having similar characteristics except for the two role figures: 6 and 9. The second main grouping of elements contains the role figures: Ex-drug Abuser, Close Friend, Liked Person, Less Religious Person, Impulsive Person, Successful Person and Religious Person. Within this grouping of elements, the role figure Ex-Drug Abuser (E6) and Close Friend (E9) and Liked Person (E1), form a subcluster

indicating that E6 and E9 were the most similar role figures and that Liked Person (E1) was the next most similar to the two. The non-drug-abuser (E7) is an isolated element which means this role figure is neither similar to role figures included in the first main cluster, nor to those role figures included in the second cluster

The cluster analysis as illustrated in Figure 16 also revealed that Mr. NA described his past self (me before I became involved in drugs) as very similar to someone who was disliked (E10) and to the non-drug-abuser (E7). His ideal self (me as I would like to be) was described as very honest, similar, in character, to an ex-drug-abuser (E6), a liked person (E1), non-drug-abuser (E7). His current self (me now), on the other hand, was viewed as being very similar to the Close Friend, the Liked Person, and the non-drug-abuser. However, the discrepancy in describing his past self as being similar to a disliked and a liked persons at the same time, and the description of current self as being a non-drug-addict may reveal a sign of defensiveness.

Principal Component Analysis

Figure 17 presents the Scree plot which almost indicates three main components. However, an examination of the pattern of factor loadings (Table 61) indicated that only the first two components should be considered for interpretation. Figure 18 shows the two-principal component solution after rotation, and which includes component loadings, related communalities, proportion of variance accounted for by each component, and total variance accounted for by the two components. It can be seen that the

first component accounted for the largest proportion of variance (55.60%). There were 13 constructs out of 16 which loaded strongly on this component (loadings ranged from -0.65 to 0.96). There were three constructs with strong loadings (0.72, 0.79, 0.84) on the second component.

A plot of constructs and elements based on the two-principal component solution of Mr. NA's grid is shown in Figure 18. In this plot and in all the subsequent principal component plots, Component I is plotted on the horizontal axis.

FIGURE 17 Scree Test (Mr. NA's Grid data)

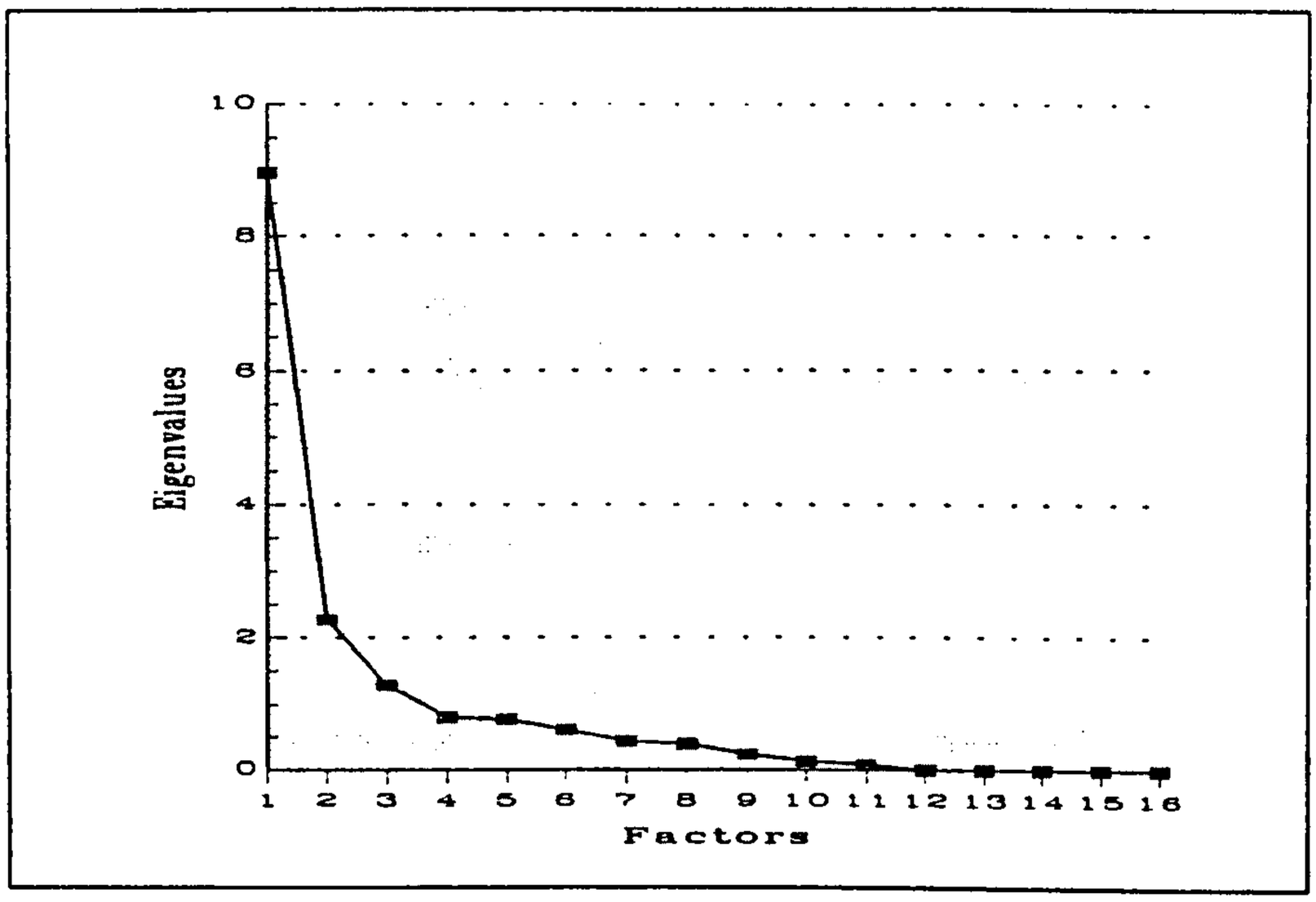


TABLE 61 Construct loadings on first and second components derived by Varimax rotation- Mr. NA's Grid data.

Construct	Component I	Component II	h^2
RESPONSIBLE	.77692	.11311	.61640
IMPULSIVE	-.87876	-.04646	.77438
RELIGIOUS	.70206	.11266	.50559
LIKED	-.92983	-.22716	.91619
BAD-TEMPERED	.88505	-.09552	.79244
ADDICT	-.65990	.02703	.43620
ACTIVE	.68200	.44838	.66616
SERIOUS	.93445	.08212	.87994
HASTY	-.78089	-.16302	.63637
SUCCESSFUL	.94770	-.01010	.89824
QUIET	.77726	-.38686	.75380
THOUGHTLESS	-.67035	.00585	.44941
INCONSTANT	.96352	.01224	.92853
ME BEFORE	-.01256	.84764	.71865
ME NOW	-.12361	.72931	.54717
ME AS I'D LIKE TO BE	.30545	.79183	.72030
Variance	55.60%	14.7%	$\Sigma = 70.3$

FIGURE 18 Principal Component Analysis of Mr NA's grid data derived by Varimax rotation.

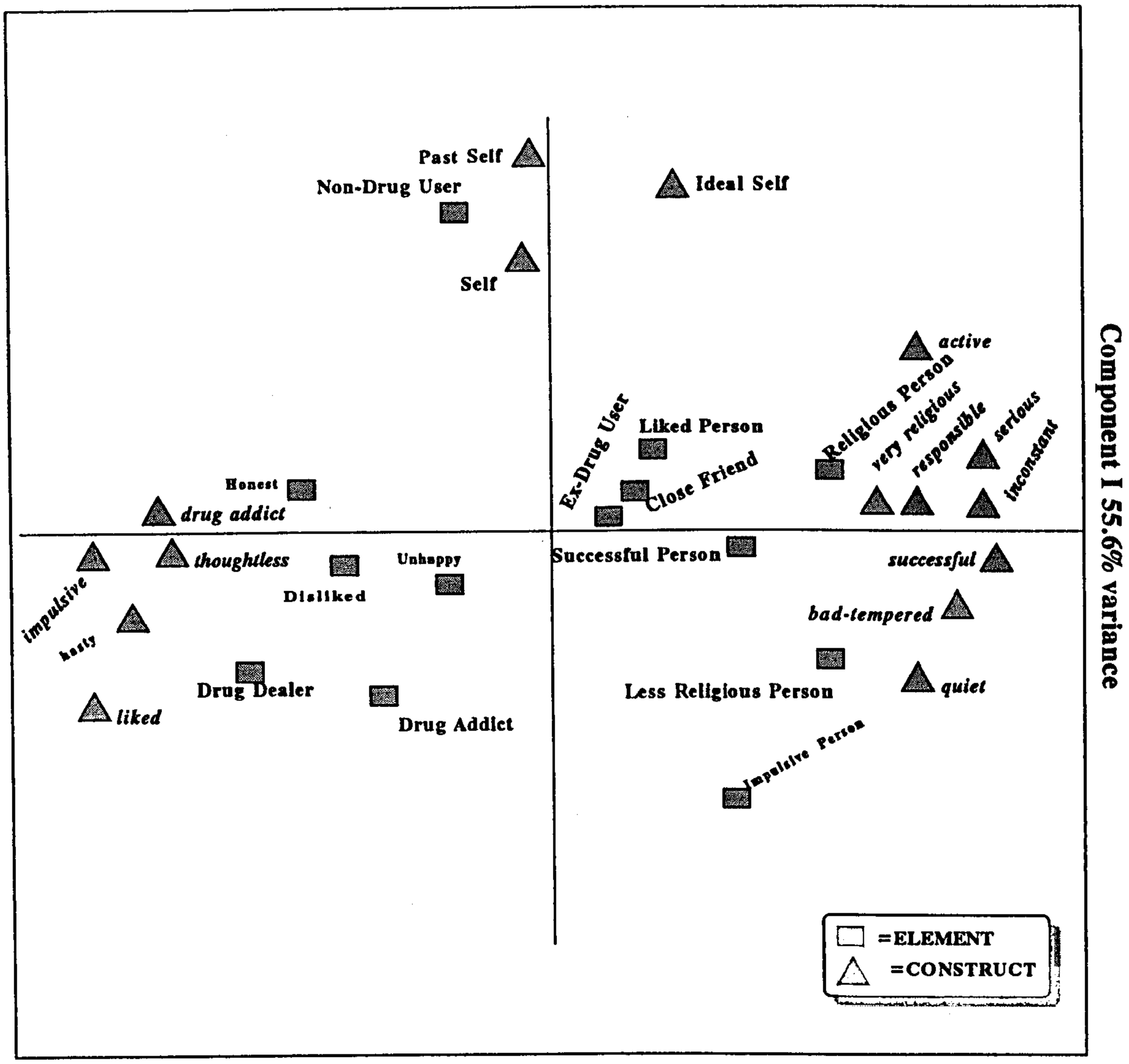


Figure 18 indicates that on Component **I,** the constructs *Takes drugs, Impulsive, Thoughtless, Hasty,* and *Liked* contrasted with *Very Religious, Responsible, Serious, Inconstant, Successful Bad-tempered,* and *Quiet.* The Drug Dealer figure (Element 11), although construed as being *Hasty,* was seen as *Liked* and as *Honest.*

Past self loaded on the second component (with a loading of 0.847). It was construed as being similar to both Current and Ideal Self. Furthermore, the Current Self is seen as similar to the Non-Drug-Addict figure (Element 7) and falls in the quadrant of the Honest Person element. The Drug Dealer (Element 11) figure, on the other hand, is perceived as *Hasty* but a *Liked person* at the same time. The Ideal Self is in the quadrant of *Religious, Active, Responsible,* but not close enough to be identified with these qualities.

Construct Correlations

The Construct correlation matrix (Table 62) demonstrated that the past self, and the and ideal self were positively and significantly correlated for Mr. NA (*rho* =0.6051, p=<0.014). This suggests that Mr. NA has the desire of restoring some qualities of his past self (self before involvement in drugs). However, the positive correlation between his current self (self after involvement in the use of illicit drugs) and his ideal self (*rho* =0.4599, p=<.05) does indicate a wish for maintaining some characteristics of the self on drugs (i.e., his current self).

TABLE: 62 Construct inter-correlation for Mr. NA's grid using Spearman's *rho*. N=13 Elements.

Construct	*rho* /													
RESPONSIBLE	X													
IMPULSIVE	-.8908	X												
	P .000													
RELIGIOUS	.4852	-.6328	X											
	P .046	*P .010*												
LIKED	-.7585	.8017	-.6801	X										
	P .001	*P .000*	*P .005*											
BAD-TEMPERED	.7650	-.8296	.5146	-.7723	X									
	P .001	*P .000*	*P .036*	*P .001*										
ADDICT	-.4358	.3185	-.3764	.6575	-.6475	X								
	P .068	*P .144*	*P .102*	*P .007*	*P .008*									
ACTIVE	.3950	-.4791	.5227	-.7599	.4098	-.4600	X							
	P .091	*P .049*	*P .033*	*P .001*	*P .082*	*P .057*								
SERIOUS	.7257	-.8643	.7906	-.8964	.7431	-.4858	.7094	X						
	P .002	*P .000*	*P .001*	*P .000*	*P .002*	*P .046*	*P .003*							
HASTY	-.6120	.6802	-.5850	.7841	-.5108	.4359	-.5989	-.8380	X					
	P .013	*P .005*	*P .018*	*P .001*	*P .037*	*P .068*	*P .015*	*P .000*						
SUCCESSFUL	.6177	-.7620	.7300	-.8850	.7923	-.6243	.7927	.8739	-.6434	X				
	P .012	*P .001*	*P .002*	*P .000*	*P .001*	*P .011*	*P .001*	*P .000*	*P .009*					
QUIET	.5069	-.6830	.5080	-.5332	.6832	-.4350	.4161	.6246	-.5632	.7176	X			
	P .039	*P .005*	*P .038*	*P .030*	*P .005*	*P .069*	*P .079*	*P .011*	*P .023*	*P .003*				
THOUGHTLESS	-.4993	.6000	-.4121	.5677	-.6404	.2706	-.4294	-.6845	.6648	-.6056	-.5320	X		
	P .041	*P .015*	*P .081*	*P .021*	*P .009*	*P .186*	*P .072*	*P .005*	*P .007*	*P .014*	*P .031*			
INCONSTANT	.6926	-.8097	.7951	-.9189	.8148	-.6230	.7120	.9018	-.7121	.9749	.6917	-.6477	X	
	P .000	*P .001*	*P .000*	*P .000*	*P .011*	*P .003*	*P .000*	*P .003*	*P .000*	*P .004*	*P .008*	*P .004*		
PAST SELF	.2027	-.0090	.0574	-.2744	-.0031	-.1890	.3502	.0862	-.0811	.0444	-.4680	.1692	.0617	X
	P .253	*P .488*	*P .426*	*P .182*	*P .496*	*P .268*	*P .120*	*P .390*	*P .396*	*P .443*	*P .053*	*P .290*	*P .421*	
SELF	.1022	-.0633	.1897	.0121	-.1346	.3448	.1220	.0669	-.0453	-.1744	-.2215	-.1593	-.1339	.2643
	P .370	*P .419*	*P .267*	*P .484*	*P .331*	*P .124*	*P .346*	*P .414*	*P .442*	*P .284*	*P .233*	*P .302*	*P .331*	*P .191*
IDEAL SELF	.2391	-.2892	.2086	-.4877	.3381	-.2327	.5132	.3198	-.2251	.2899	-.0209	-.1054	.2589	.6051
	P .216	*P .169*	*P .247*	*P .045*	*P .129*	*P .222*	*P .036*	*P .143*	*P .230*	*P .168*	*P .473*	*P .366*	*P .197*	*P .014*

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**

Note: correlations between the different aspects of the Self appear in bold face.

There was a positive correlation between the current self and the ideal self. Only a small correlation (*rho* =264, n.s.) was observed between the current self and past self. There was a significant correlation between the construct *liked* and *takes drugs* (*rho* = 0.657, p=<0.001)

Case 2: Mr. SM

Case background

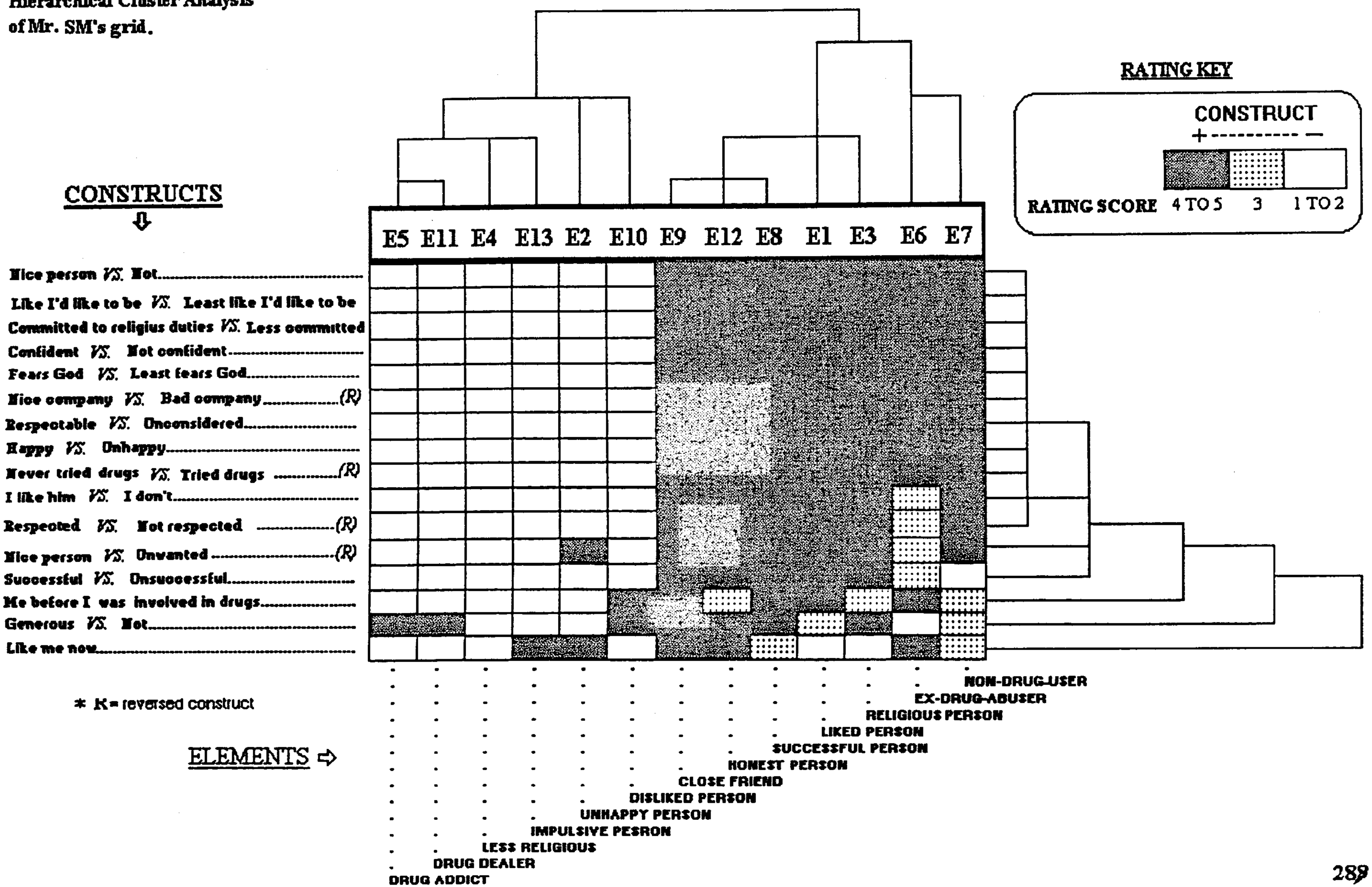
Mr. SM was a 22 year-old alcoholic. He started drinking when he was as young as fifteen years. His story with alcohol began when he accompanied his uncle for a 'trade trip' to Kuwait, where his uncle (who was himself a drinker of alcohol) offered him a drink saying :'try it. it won't do you any harm!'. Since then, Mr. SM had numerous chances for drinking. He generally tended to be hostile with his parents, friends and sometimes with class mates. He left school at senior high school level. He achieved an IQ score of 95 on the YIT. His main living comes from his mother and brother's small business. Since a year prior to testing, he had, gradually, begun to strengthen his commitment to religion, prayed regularly and occasionally attend religious-related public talks. Mr. SM recently began to experience a new change in his life style. He said that he had decided to come to the AAH with much hope that he would eventually get rid of the 'bad habit'.

Cluster Analysis

Figure 19 illustrates a hierarchical cluster analysis of Mr. SM's grid. As can be observed, there were 11 negative construct poles applied, indistinguishably, to the role figures: Drug Addict (E5), Drug Dealer (E11), Less Religious Person (E4), Impulsive Person (E13), Unhappy Person (E2), and Disliked Person (E10).

FIGURE 19

Hierarchical Cluster Analysis of Mr. SM's grid.



Similarly, Mr. SM described the role figures: Close Friend (E9), Honest (E12), Successful Person (E8), Liked Person (E1), Religious Person (E3), Ex-Drug Abuser (E6), and Non-Drug User (E7) in terms of the positive poles of the constructs: *nice person vs. not, like I'd like to be vs. least like I'd like to be, committed to religious duties vs. less committed, confident vs. not confident, fears God vs. least fears God, nice company vs. bad company, respectable vs. inconsiderate, happy vs. unhappy, never tried drugs vs. tried drugs, I like him vs. I don't,* and *respected vs. not respected.* Mr. MS construed the role figures: Drug Dealer, Drug Addict, Less Religious, Impulsive Person, Unhappy Person, and Disliked Person as characteristic of the negative pole of almost all constructs in the grid. That is to say, these role figures were seen by Mr. SM as people who were *not nice, less committed to religion, not confident, least fear God, bad company,* and *inconsiderate.* He also construed them as being *unhappy people, not respectable, unwanted,* and *unsuccessful* people. More important, the above role figures were not seen by Mr. SM as the sort of people whom he liked or would like to identify his ideal self with (see, Constructs 3 and 16).

Further, Mr. SM's ideal self (me as I would like to be) was construed as very similar to all to people (role figures) who were not user of illicit drugs (E9, E12, E8, E1, E3, E6, and E7). It can also be noticed that his ideal self is located at very close distance from constructs which are of positive qualities. On the other hand, Mr. SM construed his current self (me now) as dissimilar to a drug addict, drug dealer, less religious person (score of 2), and disliked person. He also saw himself as an impulsive, unhappy, and ex-drug abuser

Principal Component Analysis

Shown in Figure 20 is a Scree plot which suggests according to Cattell's criteria that two components should be considered for interpretation and this also agrees with Kaiser's criterion, though Component **I** is very dominant. Figure 21 demonstrates the two-principal component solution which includes component loadings, related communalities, proportion of variance accounted for by each component, and total variance accounted by the two components. It can be seen that even after rotation the first component still accounted for the largest proportion of variance (81.4%). There were 14 constructs loading strongly on this component (loadings ranged from 0.67 to 0.99). There were 2 constructs with strong loadings (0.74, -0.84) on the second component.

FIGURE 20 Scree Test (Mr. SM's Grid data)

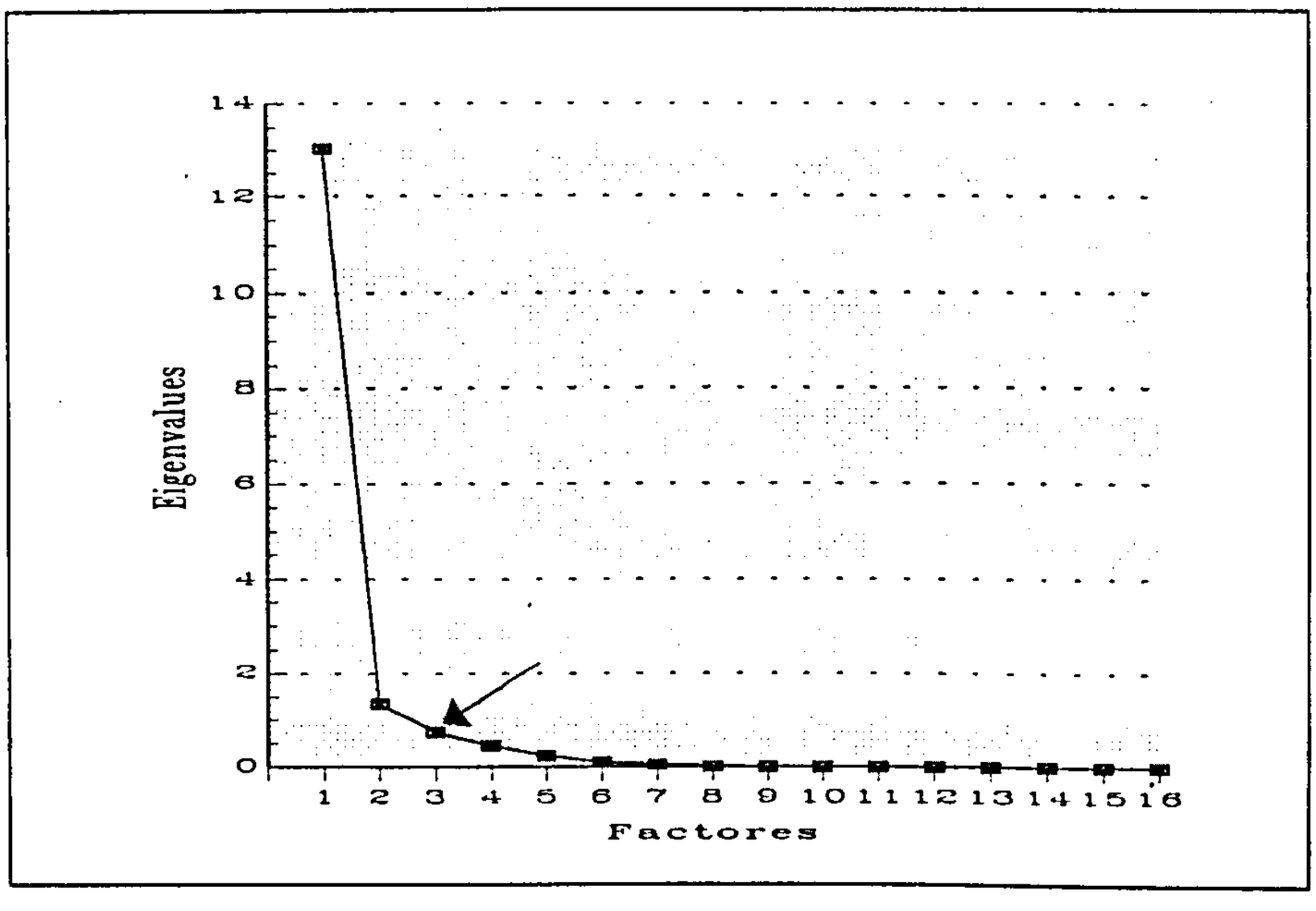
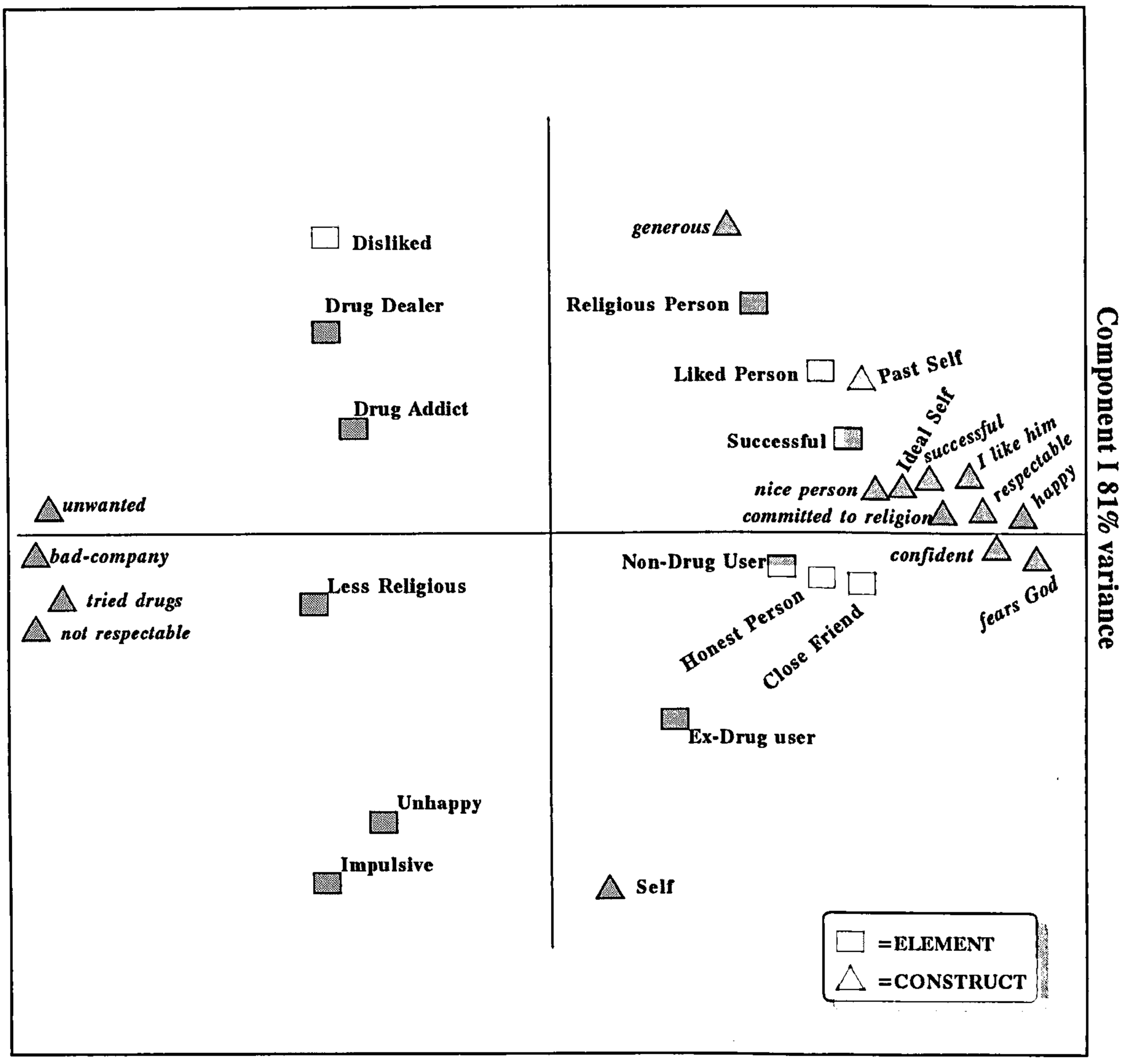


TABLE 63 Construct loadings on first and second components derived by Varimax rotation- Mr. SM's Grid data.

Construct	Component I	Component II	h^2
BAD-COMPANY	-.99050	-.06581	.98542
RESPECTABLE	.99050	.06581	.98542
LIKED	.97255	.07614	.95166
GENEROUS	.29011	.74607	.64079
DISLIKED	-.91410	.05774	.83892
UNRESPECTED	-.97026	-.13824	.96051
SUCCESSFUL	.92254	.08073	.85759
RELIGIOUS	.98667	.05100	.97611
HAPPY	.99529	.00403	.99063
NICE	.98667	.05100	.97611
TRIED DRUGS	-.98044	-.05740	.96455
CONFIDENT	.99183	-.00955	.98382
FEARS GOD	.99183	-.00955	.98382
ME BEFORE	.67710	.31069	.55499
ME NOW	.22384	-.84178	.75869
ME AS I'D LIKE TO BE	.98667	.05100	.97611
Variance	81.%	8.8%	$\Sigma = 89.9$

FIGURE 21 Principal Components Analysis of Mr. SM's grid data after Varimax rotation.



A plot of constructs and elements based on the two-principal component solution of Mr. SM's grid is displayed in Figure 21. Component I consisted of 10 constructs, which were, *Nice person, Successful person, Me as I would like to be* (Ideal Self), *I like him, Responsible, Happy, Confident,* and *Fears God.* Mr. SM's Ideal Self loaded strongly on this component (with a loading of 0.98) and located closely to constructs included in this component. His Past Self was, also fairly close to these set of constructs (with a loading of 0.67 on Component I).

However, Mr. SM construed his current self as being dissimilar to both his past self (Me before I involved in drugs) and ideal self (Me as I would like to be). The current self (Me now), as shown in Figure 21, loaded negatively on second component (-0.84), was unfavourably described as being similar to Unhappy Person and also situated in the quadrant of negative qualities: *Bad-company, Tried drugs,* and *Not respectable*. His current self was contrasted with the Drug Dealer and the Drug Addict figures.

Construct Correlations

Construct intercorrelations for Mr. SM, Table 64, demonstrate that the construct *Bad-company* had highly significant positive correlations with the following constructs: *Tried drugs* (*rho* =0.965, *P*< 0.001), *Disliked* (*rho* =.874, *P*<.001), *Unrespected* (*rho* =0.952, *P*< 0.001). On the other hand, the construct *Bad-company* correlated negatively with all constructs which have favourable personal characteristics: It had reversed correlation with *Liked* (*rho*

= -0.92, *P*< 0.001), *Successful* (*rho* = -0.928, *P*< 0.001), *Religious* (r =-0.96, *P*< 0.001), *Nice* (*rho* = -0.963, *P*< 0.001), *Happy* (*rho* = -0.97, *P*< 0.001), *Confident* (*rho* = -0.93, *P*< 0.001), and *Fears God* (*rho* = -0.93, *P*< 0.001).

TABLE: 64 Construct inter-correlation for Mr.SM's grid using Spearman's rho. N=13 Elements.

Construct	*rho*													
BAD COMPANY	X													
RESPECTED	-1.0000	X												
	P .000													
LIKED	-.9299	.9299	X											
	P .000	*P .000*												
GENEROUS	-.2989	.2989	.3374	X										
	P .161	*P .161*	*P .130*											
DISLIKED	.8745	-.8745	-.9892	-.3319	X									
	P .000	*P .000*	*P .000*	*P .134*										
UNRESPECTED	.9522	-.9522	-.9766	-.3918	.9417	X								
	P .000	*P .000*	*P .000*	*P .093*	*P .000*									
SUCCESSFUL	-.9284	.9284	.9742	.3700	-.9666	-.9430	X							
	P .000	*P .000*	*P .000*	*P .107*	*P .000*	*P .000*								
RELIGIOUS	-.9636	.9636	.9179	.2560	-.8537	-.9399	.8839	X						
	P .000	*P .000*	*P .000*	*P .199*	*P .000*	*P .000*	*P .000*							
HAPPY	-.9754	.9754	.9545	.2453	-.9243	-.9288	.9602	.9399	X					
	P .000	*P .000*	*P .000*	*P .210*	*P .000*	*P .000*	*P .000*	*P .000*						
NICE	-.9636	.9636	.9179	.2560	-.8537	-.9399	.8839	1.0000	.9399	X				
	P .000	*P .000*	*P .000*	*P .199*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*					
TRYED DRUGS	.9654	-.9654	-.8864	-.2997	.8275	.9076	-.8727	-.9415	-.9417	-.9415	X			
	P .000	*P .000*	*P .000*	*P .160*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*				
CONFIDENT	-.9382	.9382	.9428	.2013	-.9049	-.9151	.9171	.9736	.9654	.9736	-.9166	X		
	P .000	*P .000*	*P .000*	*P .255*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*			
FEARS GOD	-.9382	.9382	.9428	.2013	-.9049	-.9151	.9171	.9736	.9654	.9736	-.9166	1.0000	X	
	P .000	*P .000*	*P .000*	*P .255*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*		
PAST SELF	-.7191	.7191	.6025	.2702	-.5376	-.6514	.5807	.6930	.6670	.6930	-.6650	.6390	.6390	X
	P .003	*P .003*	*P .015*	*P .186*	*P .029*	*P .008*	*P .019*	*P .004*	*P .006*	*P .004*	*P .007*	*P .009*	*P .009*	
SELF	-.1214	.1214	.1682	-.3035	-.1956	-.0800	.2548	.1276	.2107	.1276	-.1171	.2199	.2199	-.1101	X
	P .346	*P .346*	*P .291*	*P .157*	*P .261*	*P .398*	*P .200*	*P .339*	*P .245*	*P .339*	*P .352*	*P .235*	*P .235*	*P .360*	
IDEAL SELF	-.9636	.9636	.9179	.2560	-.8537	-.9399	.8839	1.0000	.9399	1.0000	-.9415	.9736	.9736	.6930	.1276
	P .000	*P .000*	*P .000*	*P .199*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .004*	*P .339*
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**4**	**15**

Note: correlations between the different aspects of the Self appear in bold face.

There is a considerable distance between aspects of self in Mr. SM's grid. He construed his current self as almost unrelated to his ideal self, where he construed himself (ideal self) as leading a drug-free life. His current self conceived as moderately similar to his past self, which he used to be drug-free person. This evidenced by the observed correlation between the different aspects of the self shown in Table 64. In Mr. SM's construct intercorrelation matrix, his current self was unrelated to either the ideal self (*rho* =0.12) and past self (*rho* =-0.11). In addition, his ideal self was moderately related to his past self(*rho* =0.69, $p< 0.01$).

Case 3: Mr. AS

Case background

Mr. AS was a 22 year-old an alcoholic. He had begun to experiment with alcohol when he was at junior high school. His father had died when he was ten years old, and he had been looked after by his mother and two older brothers. He achieved an IQ of 102 (as measured by the YIT). He did not complete his secondary school education, but he expressed strong interest in going back to school and getting a qualification of some kind. His first experience with drink was trying the use of Ethyl-alcohol-containing perfume called *colonia* (a kind of cologne). Mr. AS explained that his use of this kind of substance was a way of getting cheap and accessible drink. He continued to use 'colonia' as an alcohol drink whenever the latter was unavailable to him. He worked as a clerk for two years. Currently he is a shop assistant at his older brother's grocery. He decided to join the AAH drug rehabilitation programme six months prior to testing.

Cluster Analysis

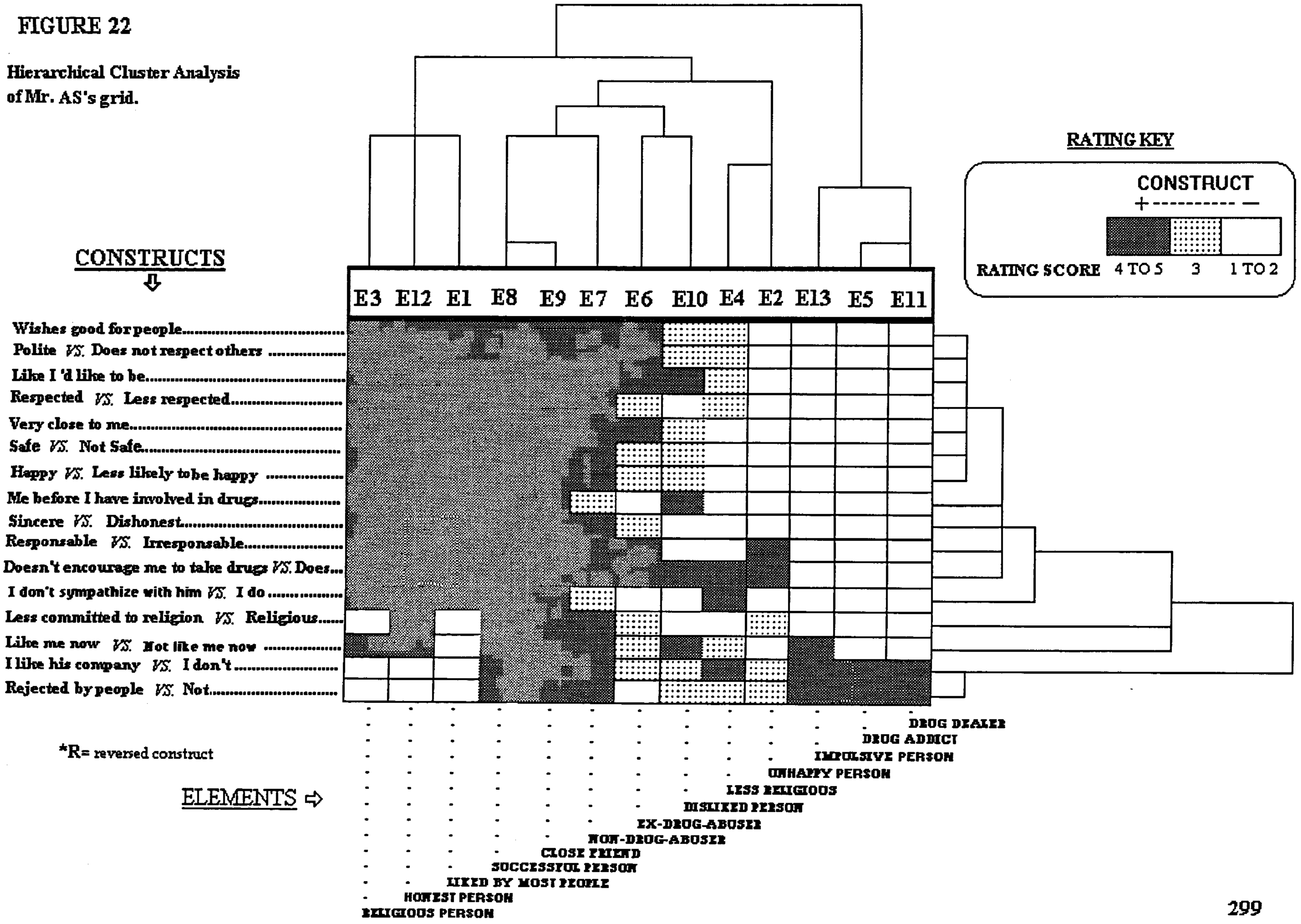
As illustrated in Figure 22, there are three subclusters of constructs. The first contains 75% of the total number of constructs in Mr. AS's grid. Constructs included in this subcluster are: *wishes good for people vs. doesn't, respect others vs. doesn't, like I'd like to be vs. least like I'd like to be, respected vs. least respected, very close to me vs. not, save vs. not save, happy vs. less likely to be happy, me before I became involved in drugs, sincere vs. dishonest, doesn't encourages me to take drugs vs. does, I don't sympathise with him vs. I do,* and *less committed to religion vs. religious.*

These constructs were applied in much the same way to all role elements. The elements: Drug Addict (E5), Drug Dealer (E11), and Impulsive Person (E13) were construed in terms of negative poles of a large number of constructs. They were construed, by Mr. AS, as the kind of people who *do not wish good for others, do not respect others, not save, less likely to be happy, dishonest,* and *irresponsible.* He also viewed these role figures as the kind of people who would *encourage him to take illegal drugs*; but, at the same time, he would *sympathise with them.*

Mr. AS expressed, through the grid, that he still favours the company of the Drug Addict, the Drug Dealer, and the Impulsive Person. It can be seen that the Construct *like me now* is closely related to the Construct *less committed to, religion.* His past self, on the other hand, was construed as dissimilar to those role figures that are associated with the use of illicit drugs.

FIGURE 22

Hierarchical Cluster Analysis of Mr. AS's grid.



In addition, his ideal self (like I would like to be) is closely related to constructs concerning positive qualities, such as *Wishes good for people vs. Doesn't, Respect others vs. Doesn't, respected vs. Least respected, Very close to me vs. not, Safe vs. Not safe, happy vs. Less likely to be happy.*

Principal Component Analysis

Presented in Figure 23 is the Scree plot which indicates that two components should be considered for interpretation. Figure 24 shows the Varimax rotated two-principal component solution and includes the component loadings, the related communalities, the proportion of variance accounted for by each component, and the total variance accounted by the two components. It can be seen that even after rotation, the first component accounted for the largest proportion of variance (67.7%). 14 constructs loaded strongly on this component (loadings ranged from 0.71 to 0.93). The second component is largely dominated by two constructs (both with loadings of 0.94).

A plot of constructs and elements based on these two principal components of Mr. AS's grid is displayed in Figure 24. Component I comprises 11 constructs, which were, *Sincere vs. Not, Wishes good for people, Very close to me vs. Not, Happy vs. Unhappy, Safe vs. Not safe, Doesn't respect others,* and *Less religious.* It also contains the three supplied constructs which were, Me before I became involved in drugs (Past Self), Me Now (Current Self), and Me as I would like to be (Ideal Self). These constructs were contrasted with *Less respected, Irresponsible, I sympathise with him,* and *Encourages me to take drugs.*

FIGURE 23 Scree Test (Mr. AS's Grid data)

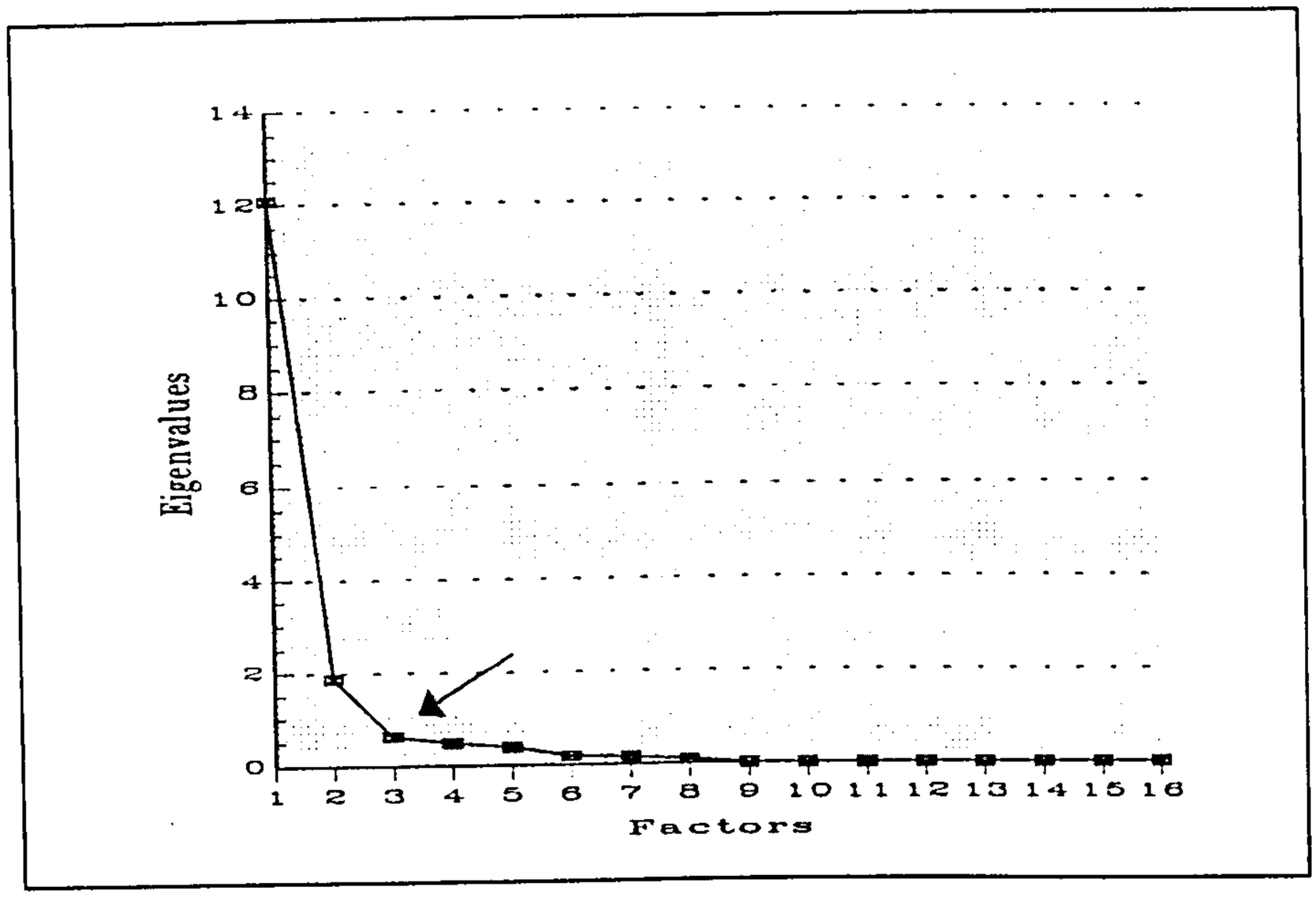
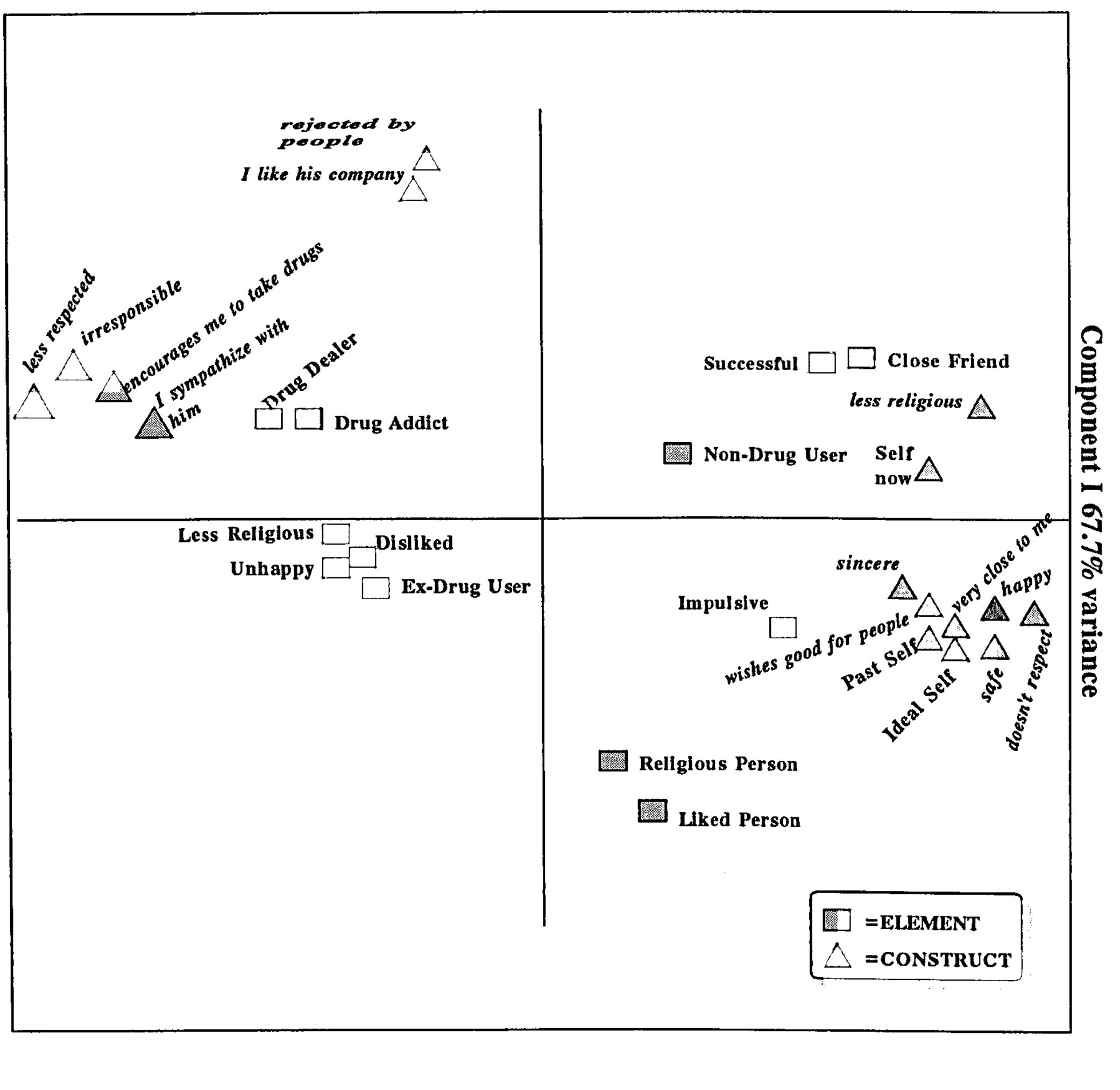


TABLE 65 Construct loadings on first and second components derived by Varimax rotation- Mr. AS's Grid data.

Construct	Component I	Component II	h^2
SINCERE	.89173	-.25125	.85831
LESS RELIGIOUS	.79639	.35159	.75785
CLOSE FRIEND	.91186	-.27801	.90879
SAFE	.91012	-.32236	.93223
ENCOURAGES ME FOR DRUGS	-.86308	.36014	.87461
I SYMPATHIZE WITH HIM	-.79635	.31855	.73564
LESS RESPECTED	-.93584	.26839	.94782
HAPPY	.93377	-.25389	.93640
IRRESPONSIBLE	-.87133	.31320	.85730
WISHES GOOD FOR PEOPLE	.92102	-.32958	.95689
DOESN'T RESPECT OTHERS	.91440	-.36917	.97241
I LIKE HIS COMPANY	-.23710	.94221	.94398
REJECTED PERSON	-.20021	.94246	.92831
ME BEFORE	.86514	-.35314	.87318
ME NOW	.71639	.17772	.54481
ME AS I'D LIKE TO BE	.89992	-.35652	.93695
Variance	67.7%	19.7%	$\Sigma = 87.3$

FIGURE 24 Principal Components Analysis of Mr. AS's grid data after Varimax rotation.



While both the past self and the ideal self were construed as being associated with most favourable characteristics: *Sincere vs. Not, Happy, Safe,* and *Wishes good for people,* they were also both described as having the characteristic of *Doesn't respect others vs. Respect others.*

In addition, the past self and the ideal self were construed as being very similar to the role figure Impulsive Person. The current self (Me now) was located in the quadrant of *Less religious* and seen as being similar to the role figures Non-Drug-User, Successful Person and Close friend.

The second component, in Mr. AS's grid accounted for 19.6% of total variance and formed the constructs *Rejected by people* and *I like his company.* These two constructs were located very close to each other and both fall in the quadrant occupied exclusively by the Drug Dealer and the Drug Addict.

Construct Correlations

The construct correlation matrix (Table 66) shows that the past self, the current self, and the ideal self are highly inter-correlated for Mr. AS. His past self correlated significantly with his current self ($rho = 0.646$, $p = 0.009$). There was an even higher correlation between the pre-drug past self and the ideal self ($rho = 0.97$, $p = 0.001$). The current self correlated significantly with the ideal self ($rho = 0.685$, $p = 0.005$).

TABLE: 66 Construct inter-correlation for Mr.AS's grid using Spearman's rho. N=13 Elements

Construct	*rho*													
SINCERE	X													
LESS-RELIGIOUS	.5291	X												
	P .031													
CLOSE FRIEND	.9132	.6121	X											
	P .000	*P .013*												
SAFE	.9321	.4993	.9629	X										
	P .000	*P .041*	*P .000*											
ENCOURAGES ME TO TAKE DRUGS	-.9379	-.5612	-.8956	-.9357	X									
	P .000	*P .023*	*P .000*	*P .000*										
I SYMPATHY WITH HIM	-.7903	-.4382	-.7742	-.8408	.8896	X								
	P .001	*P .067*	*P .001*	*P .000*	*P .000*									
LESS-RESPECTED	-.9040	-.6132	-.9360	-.9164	.9483	.8987	X							
	P .000	*P .013*	*P .000*	*P .000*	*P .000*	*P .000*								
HAPPY	.8736	.5632	.9545	.9408	-.9233	-.8386	-.9681	X						
	P .000	*P .023*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*							
IRRESPONSIBLE	-.9009	-.6667	-.9471	-.8990	.8972	.8485	.9578	-.8974	X					
	P .000	*P .006*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*						
WISHES GOOD FOR PEOPLE	.9387	.5560	.9144	.9407	-.9814	-.8448	-.9573	.9508	-.8888	X				
	P .000	*P .024*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*					
DOES NOT RESPECT OTHERS	.9082	.5163	.9366	.9613	-.9456	-.8823	-.9665	.9603	-.9174	.9685	X			
	P .000	*P .035*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*				
I LIKE HIS COMPANY	-.3901	.0193	-.3896	-.4656	.4565	.4057	.3813	-.3530	.4045	-.4523	-.4785	X		
	P .094	*P .475*	*P .094*	*P .054*	*P .058*	*P .085*	*P .099*	*P .118*	*P .085*	*P .060*	*P .049*			
REJECTED	-.3724	.0297	-.3698	-.4335	.4405	.4036	.3983	-.3569	.4024	-.4546	-.4926	.9836	X	
	P .105	*P .462*	*P .107*	*P .069*	*P .066*	*P .086*	*P .089*	*P .116*	*P .086*	*P .059*	*P .044*	*P .000*		
PAST SELF	.8442	.4896	.9083	.9626	-.9331	-.9178	-.9225	.9381	-.8758	.9244	.9585	-.4948	-.4702	X
	P .000	*P .045*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .043*	*P .052*	
SELF	.5513	.5974	.5518	.6284	-.6491	-.5709	-.5665	.6041	-.4891	.6206	.6238	-.0779	-.0646	.6462
	P .025	*P .016*	*P .025*	*P .011*	*P .008*	*P .021*	*P .022*	*P .014*	*P .045*	*P .012*	*P .011*	*P .400*	*P .417*	*P .009*
IDEAL SELF	.8633	.4837	.9277	.9613	-.9318	-.8644	-.9358	.9588	-.8776	.9428	.9822	-.4755	-.4777	.9703
	P .000	*P .047*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .050*	*P .049*	*P .000*

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
SELF	.5513	.5974	.5518	.6284	-.6491	-.5709	-.5665	.6041	-.4891	.6206	.6238	-.0779	-.0646	.6462	X
	P .025	*P .016*	*P .025*	*P .011*	*P .008*	*P .021*	*P .022*	*P .014*	*P .045*	*P .012*	*P .011*	*P .400*	*P .417*	*P .009*	
IDEAL SELF	.8633	.4837	.9277	.9613	-.9318	-.8644	-.9358	.9588	-.8776	.9428	.9822	-.4755	-.4777	.9703	.6852
	P .000	*P .047*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .050*	*P .049*	*P .000*	*P .005*

Note: correlations between the different aspect of the Self appear in bold face.

As shown in Table 66, there was a clear tendency for the ideal self to relate negatively to constructs which, generally, have negative or unfavourable characteristics. The ideal self correlated negatively with *Encourages me to take drugs vs. Doesn't* (*rho* =-0.93, p=< 0.001), *Least respected vs. Respected* (*rho* =-0.935, p=<.001), *Irresponsible vs. Responsible* (*rho* =-0.877, p=< 0.001). The ideal self, for Mr. AS, also correlated negatively with the constructs *I sympathise with them vs. I don't* (*rho* =-0.86, p=< 0.001), *Like his company vs. I don't* (*rho* =-0.475, p=< 0.05). On the other hand, the ideal self for Mr. AS correlated positively with the following constructs: *Happy vs. Unhappy* (*rho* = 0.93, p=0.001), *Wishes good for people* (*rho* = 0.94, p =< 0.001), *Sincere vs. Not* (*rho* =0.86, p=<.001), *Close friend vs. Not* (*rho* =0.92, p=< 0.001), Save (*rho* = 0.96, p=< 0.001), *Less Religious vs. Religious* (*rho* =0.48, p=< 0.05). Mr. AS's current self did correlate with these constructs quite strongly, but less strongly than it did with the ideal self.

His pre-drug past self shows a high level of similarity to his ideal self in that it correlated, with the same direction and almost similar strength, with constructs that correlated with the ideal self.

Case 4: Mr. AH

Case background

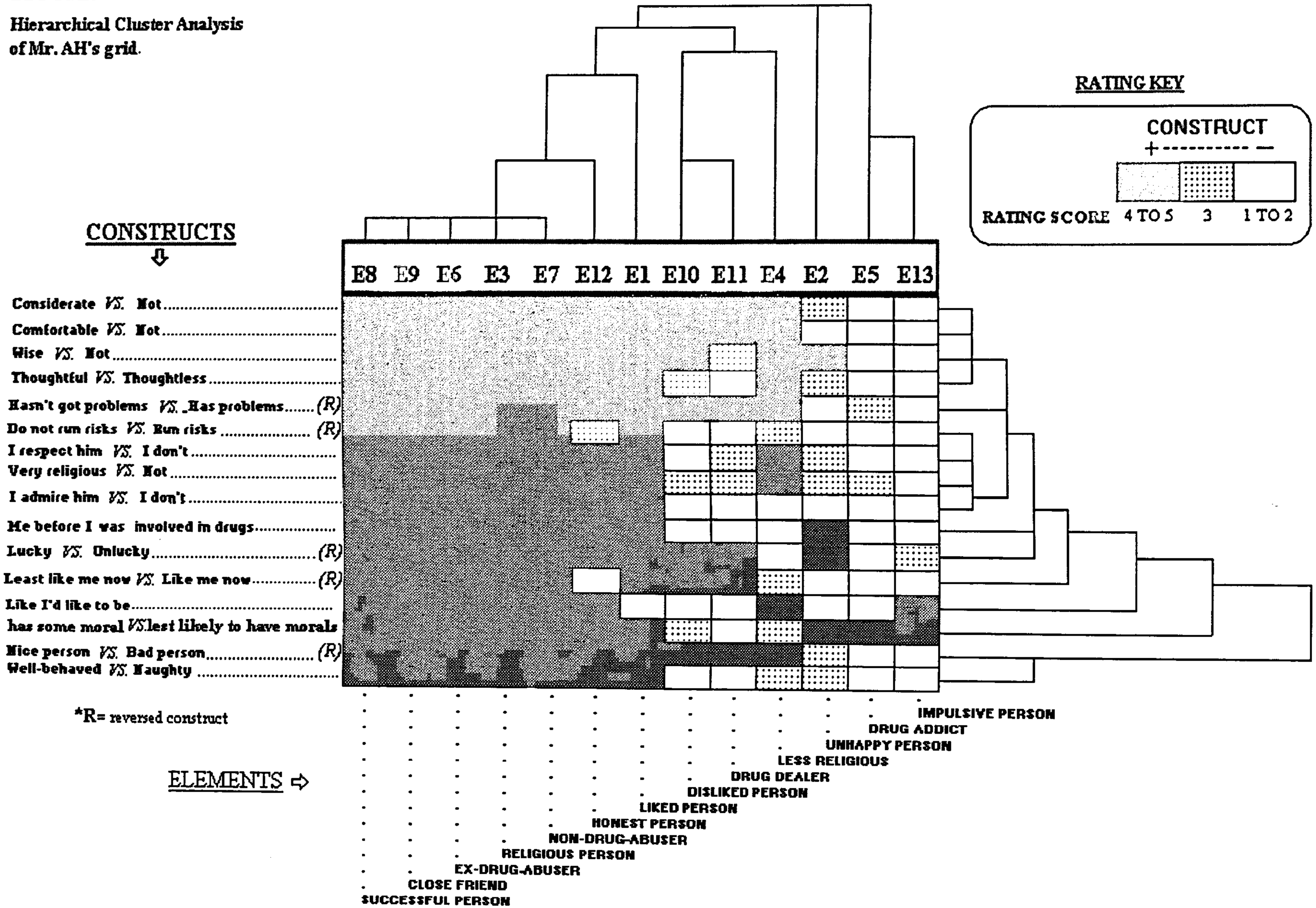
Mr. AH was aged 23, a heroin addict. He ended up using heroin after he had been experimenting with various other types of illicit drugs. But he explained that his excessive use of drugs had been a result of problems with his parents. His parents had prevented him from getting married to the woman of his choice. He claimed that he used drugs in an effort to relieve his distress. He continued also to use alcohol, barbiturates, and cannabis. He was introduced to heroin by a Pakistani man who used to supply him with cannabis. He was able to persuade Mr. AH to change to heroin by claiming that he had no more cannabis but that he would be prepared to provide him with heroin instead. This man offered Mr. AH the first amount of heroin 'free of charge'. When Mr. AH became a heroin addict, he began to struggle with getting enough money for heroin doses. He sold everything he could of his possessions. After long suffering with drugs, he made his decision to receive treatment at AAH.

Cluster Analysis

Shown in Figure 25 is a hierarchical cluster analysis of Mr. AH, together with his grid, rearranged in the light of this analysis. It can be seen that, in Mr. AH's construct system, the constructs *considerate vs. not considerate, comfortable vs. not, wise vs. not wise, thoughtful vs. thoughtless, hasn't got problem vs. has problem, I respect him vs. I don't,* and *I admire him vs. I don't* were all closely related. He applied these constructs in much the same way to all people (role figures) who were not related to the use of illicit drugs. People who were construed in terms of the positive pole of these constructs are: Successful Person (E8), Close Friend (E9), Ex-Drug-Abuser (E6), Religious Person (E3), and Non-drug-abuser (E7).

FIGURE 25

Hierarchical Cluster Analysis of Mr. AH's grid.



His past self (me before I became involved in drugs) appeared to be largely characterised by these constructs, whereas his current self (me now) was construed as least similar to those constructs. His ideal self was more close to the constructs: *least like me now* and *not a drug addict.* In addition, he applied all the positive poles of constructs in his grid to role figures who were not involved in the use of illicit drugs. Moreover, he construed both the Drug-abuser and the Impulsive Person as very similar.

Principal Component Analysis

Shown in Figure 26 is the Scree plot, which indicates that two components should be considered for interpretation. Table 67 presents the rotated two-principal component solution, including component loadings, related communalities, the proportion of variance accounted for by each component, and the total variance accounted by the two components.

A plot of constructs and elements, based on the two-principal component solution of Mr. AH's grid, is displayed in Figure 27. Component I which accounted for 43% of the total variance, had strong loadings from the constructs: c*onsiderate vs. not, comfortable vs. not,* and *wise vs. not,* with the current self (Me now) being negatively construed and contrasting with *wise, considerate,* and *comfortable.* The current self was seen as being closely associated with *has problems vs. hasn't got problems* and *lucky vs. unlucky.* The role figures of Impulsive Person and Drug Addict were perceived as being very similar to the current self. The current self, on the other hand, was also seen as being identified with the Unhappy Person role elements.

FIGURE 26 Scree Test (Mr. AH's Grid data)

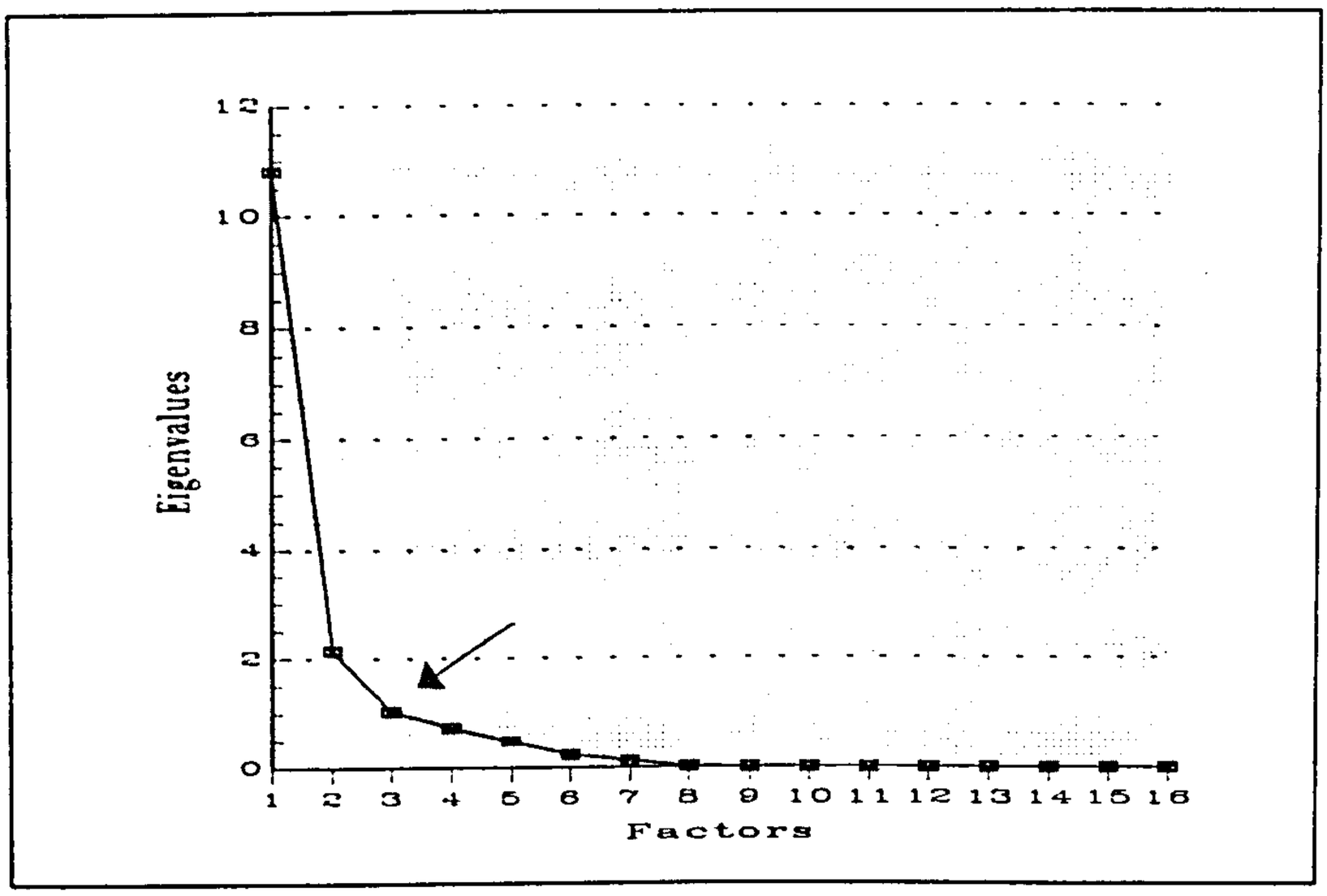
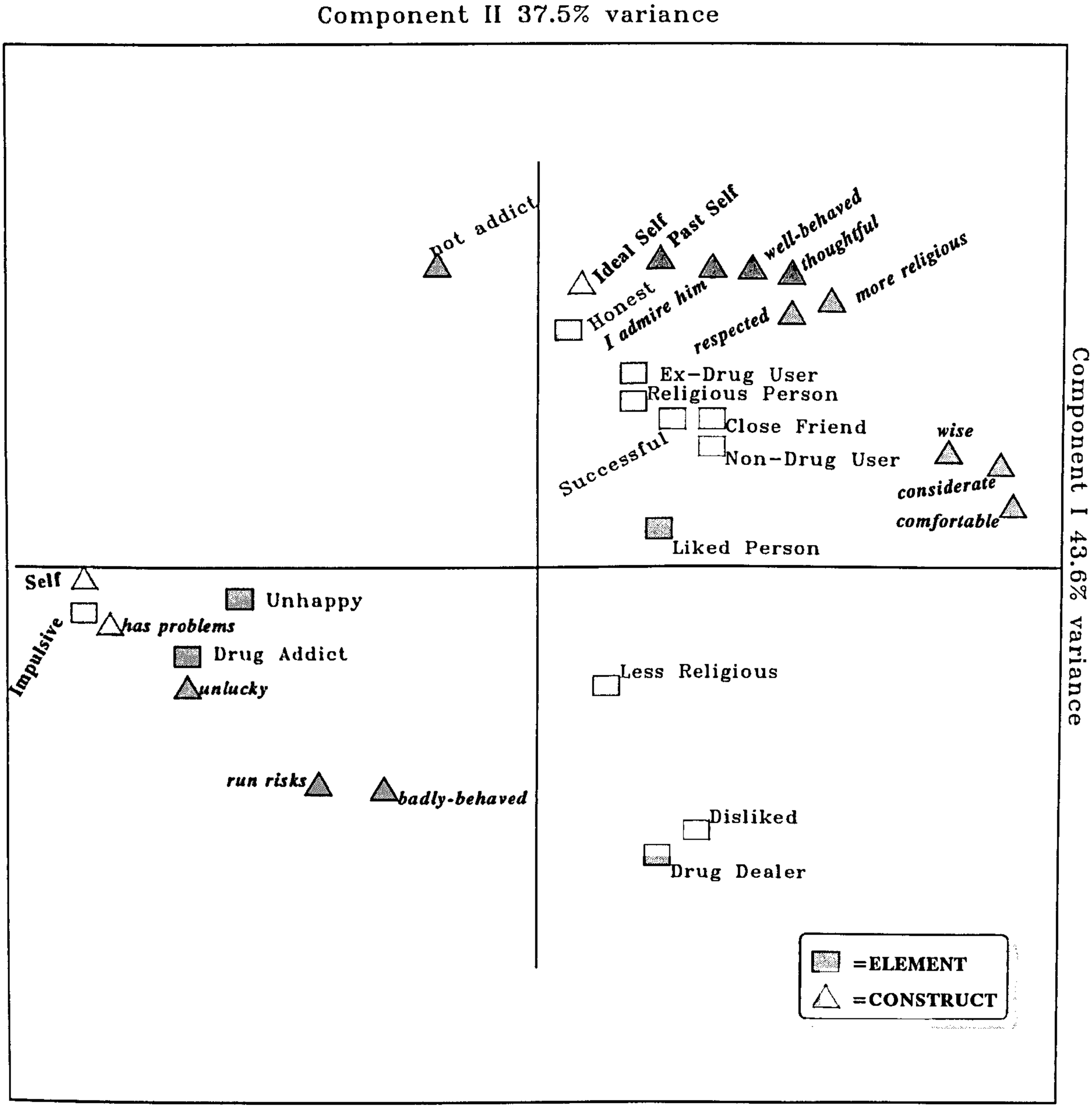


TABLE 67 Construct loadings on first and second components derived by Varimax rotation- Mr. AH's Grid data.

Construct	Component I	Component II	h^2
NOT ADDICT	-.37311	.77495	.73976
RUNS RISKS	-.67414	-.67704	.91284
RELIGIOUS	.65259	.65798	.85882
CONSIDERATE	.90477	.39058	.97115
WISE	.80416	.47397	.87132
HAS PROBLEMS	-.88818	-.14709	.81050
UNLUCKY	-.67987	-.32543	.56813
COMFORTABLE	.93843	.24870	.94249
RESPECTED	.63669	.68807	.87881
BADLY-BEHAVED	-.44026	-.68305	.66039
I ADMIRE HIM	.50177	.79000	.87587
THOUGHTFUL	.62860	.72595	.92214
WELL-BEHAVED	.55011	.81304	.96365
ME BEFORE	.31147	.82741	.78162
ME NOW	-.83526	-.01652	.69793
ME AS I'D LIKE TO BE	.11770	.71678	.52763
Variance	43.6%	37.5%	$\sum = 81.1$

FIGURE 27 Principal Components Analysis of Mr. AH's grid data after Varimax rotation.



The second component, in Mr. AH's grid accounted for 37.5% of total variance. It contains *I admire him vs. I don't, Well-Behaved vs. Not, Thoughtful vs. Thoughtless,* the past self and the ideal self. The element plots on the first and second components indicated that both the ideal self and the past self were identified with the role figure Honest Person. The current self was viewed as very similar to the Impulsive Person and the Unhappy role figures and was construed as being closely related to the Drug Addict.

Construct correlations

Table 68 shows the construct correlations from Mr. AH's grid. As can be seen, all three aspects of self were weakly interrelated. In Mr. AH's construct system, the ideal self (Me as I would like to be) positively and significantly correlated with constructs that have favourable qualities: The ideal self correlated significantly with *Non-drug-user* (*rho* = 0.58, *P*< 0.019), *Religious* (*rho* =0.596, p< 0.016), *Considerate* (*rho* =0.52, p< 0.03), *Wise* (*rho* =0.52, *P*<.03), *Comfortable* (*rho* =0.55, *P*< 0.025), *Respected* (*rho* =0.54, *P*< 0.028), *Thoughtful* (*rho* =0.724, *P*< 0.003), and *Well-behaved* (*rho* =0.633, *P*< 0.01). On the other hand, the ideal self had negative correlations with almost all of the constructs which have generally unfavourable qualities. It was inversely related to *Runs risks* (*rho* =-0.518, *P*< 0.035), *Unlucky* (*rho* =-0.578, *P*< 0.019), and *Badly-behaved* (*rho* =-0.468, *P*< 0.053).

Further, Mr. AH's current self correlated positively and significantly with *Runs risks* (*rho* = 0.70, *P*< 0.004), *Has problems* (*rho* = 0.64,

P< 0.009), *Unlucky* (*rho* = 0.50, *P*< 0.039), but had negative correlations with the remaining constructs in the grid. Current self had correlations of -0.567, *P*< 0.02 with *Religious,* -0.649, *P*< 0.008 with *Considerate,* -0.48, *P*< 0.048 with *Wise*, -0.63, *P*< 0.01 with *Respected,* and a correlation of -0.50, *P*< 0.04 with *I admire him.*

The past self, in Mr. AH's grid, related negatively to *Runs risks* (*rho* =-0.71, *P*< 0.003), and *Badly-behaved* (*rho* =-0.786, p< 0.001), and on the other hand, related positively to *Religious* (*rho* =0.60, *P*< 0.014), *Considerate* (*rho* =0.72, *P*< 0.003), *Wise* (*rho* =0.67, *P*< 0.006), *comfortable* (*rho* =0.487, *P*< 0.046), *Respected* (*rho* =0.734, *P*< 0.002), *I admire him* (*rho* =0.788, *P*< 0.001), *Thoughtful* (*rho* =0.734, *P*< 0.002), and *Well-behaved* (*rho* =0.84, *P*< 0.001).

TABLE: 68 Construct inter-correlation for Mr.AH's grid using Spearman's *rho*. N=13 Elements.

Construct	*rho*													
NON-DRUG USER	X													
RUNS RISKS	-.2434	X												
	P.211													
RELIGIOUS	.4127	-.9118	X											
	P.081	*P.000*												
CONSIDERATE	.1672	-.9382	.8724	X										
	P.292	*P.000*	*P.000*											
WISE	.0874	-.9177	.8779	.9012	X									
	P.388	*P.000*	*P.000*	*P.000*										
HAS PROBLEMS	.0432	.7978	-.7705	-.8462	-.8695	X								
	P.444	*P.001*	*P.001*	*P.000*	*P.000*									
UNLUCKY	-.1036	.5943	-.6603	-.6888	-.6094	.6852	X							
	P.368	*P.016*	*P.007*	*P.005*	*P.014*	*P.005*								
COMFORTABLE	.0709	-.7320	.7403	.8336	.7305	-.8421	-.9552	X						
	P.409	*P.002*	*P.002*	*P.000*	*P.002*	*P.000*	*P.000*							
RESPECTED	.2980	-.9845	.9042	.9095	.8927	-.7050	-.5108	.6393	X					
	P.161	*P.000*	*P.000*	*P.000*	*P.000*	*P.004*	*P.037*	*P.009*						
BADLY-BEHAVE	-.1187	.7978	-.7441	-.7248	-.8695	.5185	.4074	-.4551	-.8388	X				
	P.350	*P.001*	*P.002*	*P.003*	*P.000*	*P.035*	*P.084*	*P.059*	*P.000*					
I ADMIRED HIM	.4192	-.8975	.8395	.9476	.8258	-.7066	-.5905	.7232	.8975	-.7066	X			
	P.077	*P.000*	*P.000*	*P.000*	*P.000*	*P.003*	*P.017*	*P.003*	*P.000*	*P.003*				
THOUGHTFUL	.3214	-.8854	.9042	.9095	.9177	-.7942	-.7967	.8471	.8622	-.7942	.8975	X		
	P.142	*P.000*	*P.000*	*P.000*	*P.000*	*P.001*	*P.001*	*P.000*	*P.000*	*P.001*	*P.000*			
WELL-BEHAVED	.2867	-.9318	.8550	.9358	.9200	-.7168	-.6037	.7129	.9334	-.8771	.9492	.9334	X	
	P.171	*P.000*	*P.000*	*P.000*	*P.000*	*P.003*	*P.014*	*P.003*	*P.000*	*P.000*	*P.000*	*P.000*		
PAST SELF	.2776	-.7115	.6062	.7232	.6715	-.3893	-.4423	.4875	.7344	-.7863	.7882	.7344	.8429	X
	P.179	*P.003*	*P.014*	*P.003*	*P.006*	*P.094*	*P.065*	*P.046*	*P.002*	*P.001*	*P.001*	*P.002*	*P.000*	
SELF	.0529	.7026	-.5678	-.6492	-.4800	.6403	.5060	-.6503	-.6315	.2303	-.5028	-.4419	-.4632	-.2295 X
	P.432	*P.004*	*P.021*	*P.008*	*P.048*	*P.009*	*P.039*	*P.008*	*P.010*	*P.224*	*P.040*	*P.065*	*P.055*	*P.225*
IDEAL SELF	.5816	-.5180	.5965	.5272	.5230	-.3893	-.5784	.5518	.5410	-.4687	.6491	.7246	.6330	.4028 -.1327
	P.019	*P.035*	*P.016*	*P.032*	*P.033*	*P.094*	*P.019*	*P.025*	*P.028*	*P.053*	*P.008*	*P.003*	*P.010*	*P.086* *P.333*
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14** **15**

Note: correlations between the different aspects of the Self appear in bold face.

Case 5: Mr. YA

Case background

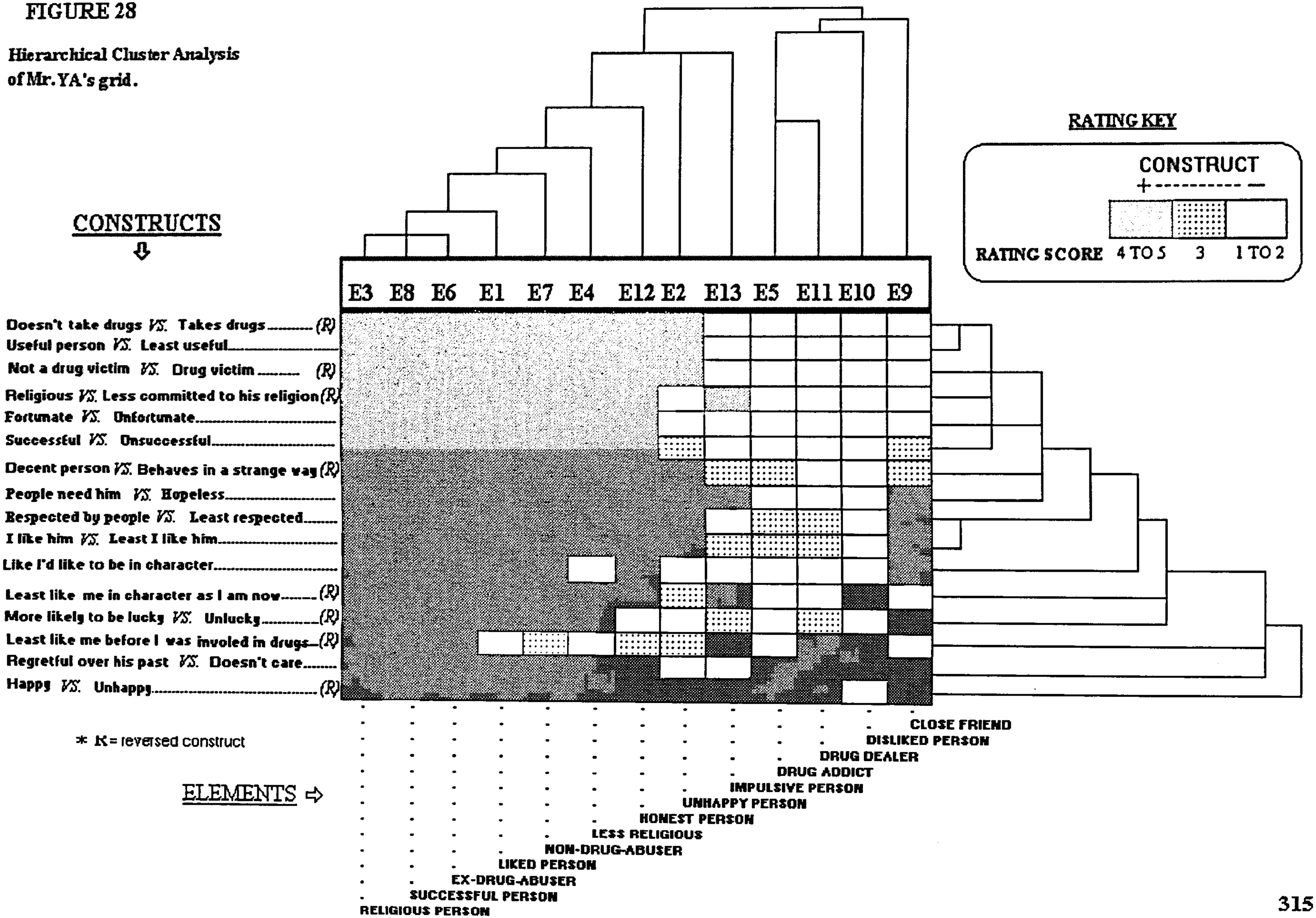
Mr. YA was a heroin addict aged 20. He was hard-working at school. He was of a wealthy family. At the age of eighteen, when he was at secondary school, he began to help his father with his private business. His father decided to send him to India for a business task. He was introduced to alcohol, marijuana and heroin with the help of an Indian companion who used to work for his father Mr. YA returned to Riyadh and began to seek whatever means were possible for obtaining heroin. He left home to live with his cousin, who was also a drug addict.

Cluster Analysis

Shown in Figure 28 is Mr. YA's grid, rearranged in the light of the hierarchical cluster analysis. For Mr. YA, the construct *doesn't take drugs vs. takes drugs* and the construct *useful person vs. least useful* are very close in his construct system. The construct *regretful over his past vs. doesn't care* and *least like me before I became involved in drugs* were also very closely related to each other, and were least similar to *doesn't take drugs* and *useful person.* It can also be seen that, for Mr. YA, the constructs *religious vs. less committed to his religion, decent person,* and *people need him,* all were closely related. They formed a subcluster within the construct tree.

FIGURE 28

Hierarchical Cluster Analysis of Mr. YA's grid.



The constructs *respected by people vs. not respected* and *I like him vs. I don't* were very closely related to each other and were the last to join this subcluster. Mr. YA construed his ideal self (me as I would like to be) as very similar to the role figures: Religious person (E3), Successful (E8), Ex-drug-addict (E6), liked Person (E1), Non-drug-abuser (E7), Honest Person (E12), and Close Friend (E9), while he viewed his current self as dissimilar to those role figures. Further, his past self was seen as similar to a less religious, successful, ex-drug abuser, a drug dealer, and a disliked person. Mr. YA construed the Drug Abuser (E5) and Drug Dealer (E11) as having negative characteristics. He saw them, for example, as less useful, as drug victims, as less committed to religion, as unfortunate, as unsuccessful, as behaving in a strange way, as hopeless, as less respected, and as the kind of people whom he least liked.

Principal Component Analysis

Figure 29 presents a Scree plot which indicates that only two components are to be considered for interpretation. Table 69 demonstrates the two component varimax-rotated solution and includes component loadings, related communalities, proportion of variance accounted for by each component, and total variance accounted by the two components. It can be seen that the first component accounted for the largest proportion of variance (52.5%). Seven constructs loaded strongly on this component (loadings ranged from 0.71 to 0.96).

FIGURE 29 Scree Test (Mr. YA's Grid data)

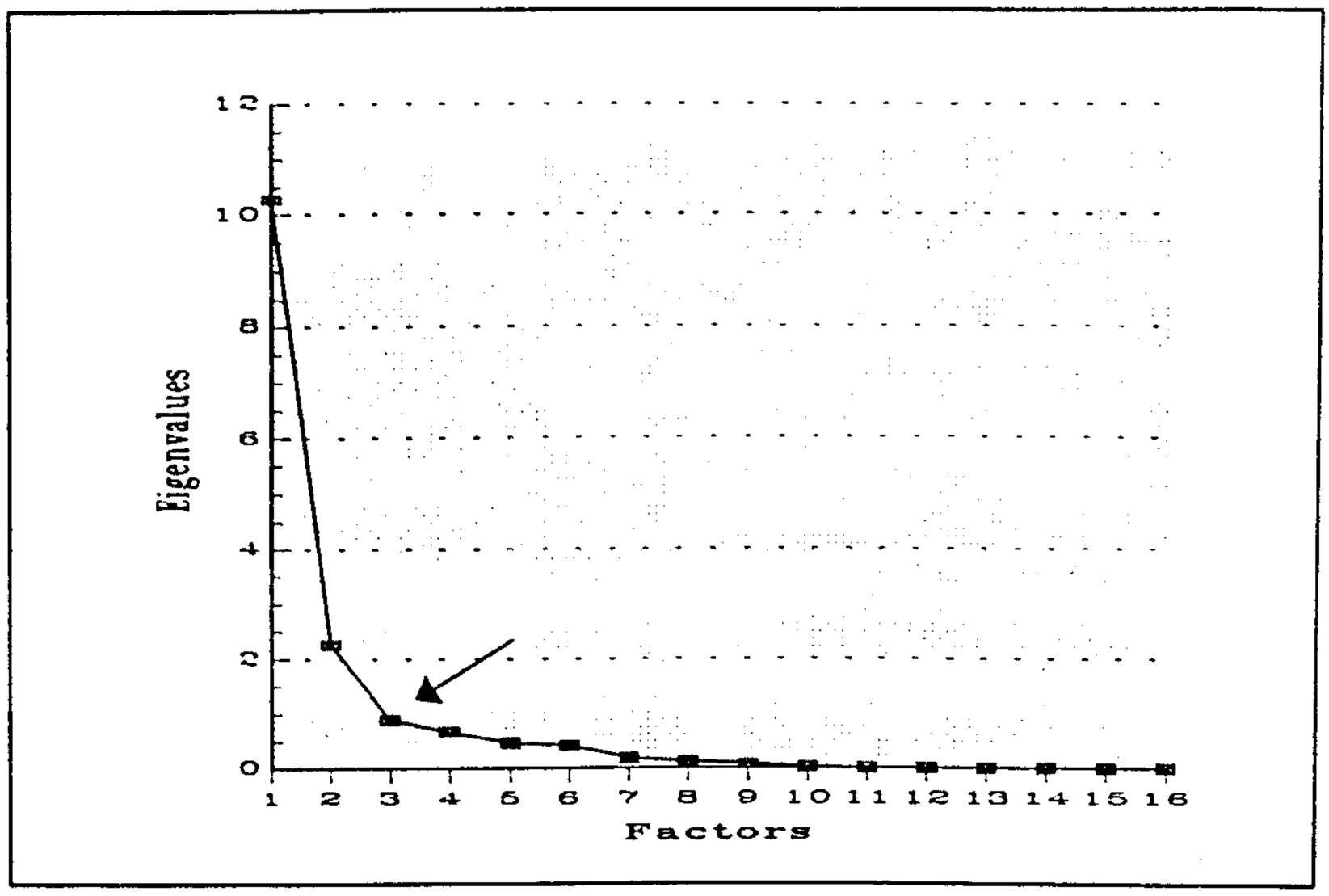
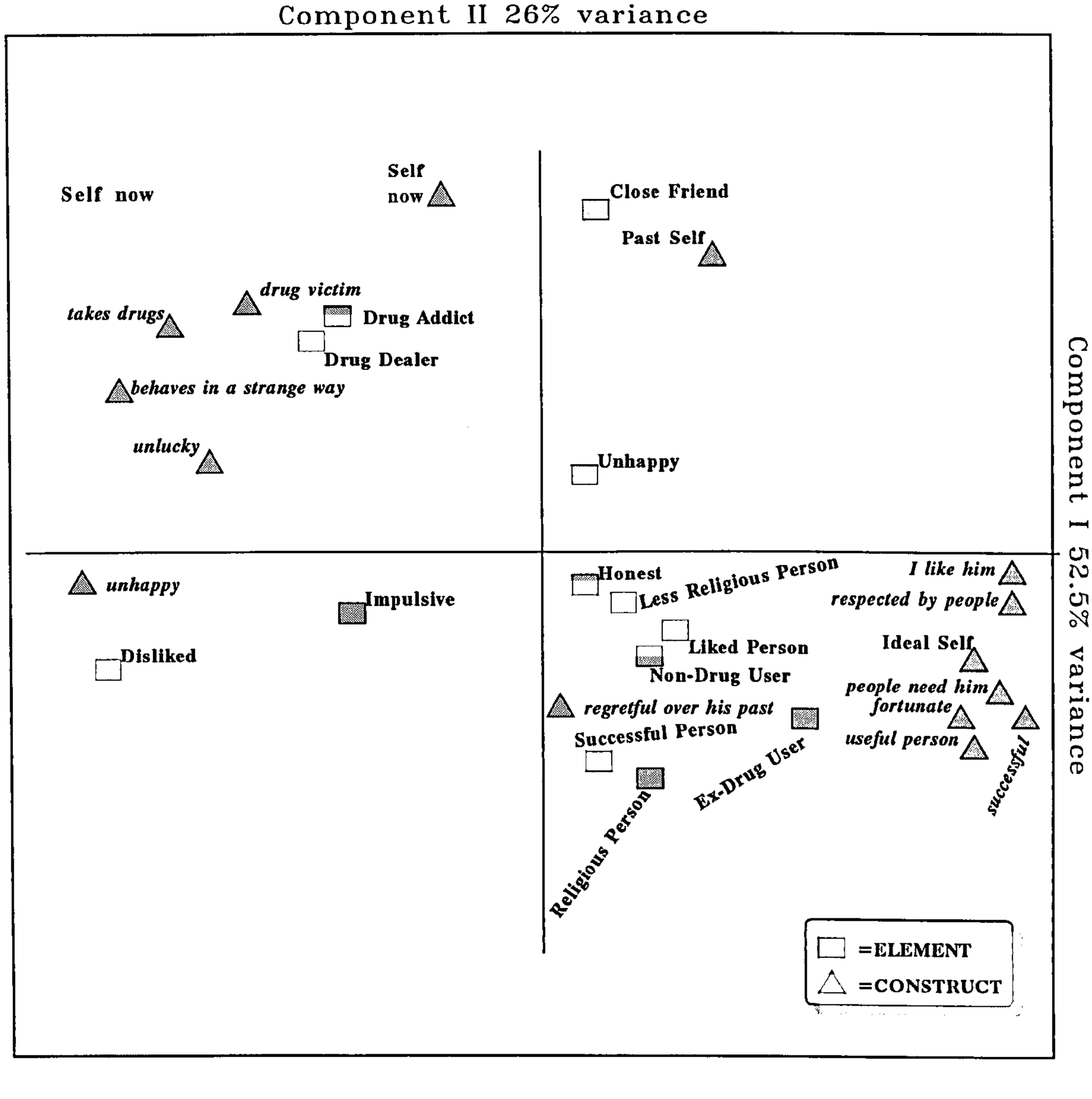


TABLE 69 Construct loadings on first and second components derived by Varimax rotation- Mr. YA's Grid data.

Construct	Component I	Component II	h^2
DRUG ADDICT	-.78757	.56481	.93927
BEHAVES IN A STRANGE WAY	-.84478	.36348	.84577
RESPECTED	.95997	-.05829	.92494
LESS RELIGIOUS	-.65523	.68858	.90346
DRUG VICTIM	-.64497	.67855	.87642
FORTUNATE	.72002	-.56238	.83469
SUCCESSFUL	.76893	-.56438	.90977
I LIKE HIM	.96694	-.03112	.93594
REGRETFUL OVER HIS PAST	.09372	-.32348	.11342
USEFUL PERSON	.72796	-.59655	.88580
PEOPLE NEED HIM	.80692	-.39232	.80504
UNLUCKY	-.71175	.20223	.54749
UNHAPPY	-.89969	-.12492	.82505
ME BEFORE	.46696	.69244	.69752
ME NOW	-.13249	.94444	.90953
ME AS I'D LIKE TO BE	.71577	-.31444	.61120
Variance	52.5%	26%	$\Sigma = 78.5$

FIGURE 30 Principal Components Analysis of Mr. YA's grid data after Varimax rotation.



A plot of constructs and elements, based on the two-principal component solution of Mr. YA's grid is displayed in Figure 30. Component I contains 7 constructs, which were, *I like him vs. I don't, respected by people vs. less respected, people need him, fortunate, useful vs. less useful,* and *successful vs. unsuccessful.* The construct *I like him* was contrasted with *unhappy.* The constructs *takes drugs vs. doesn't take drugs, behaves in a strange way vs. doesn't* and *unlucky vs. lucky* were contrasted with ideal self, *people need him*, and *fortunate*.

The second component accounted for 26% of total variance. It has one very strong loading from the current self, and quite strong positive loadings from past self, *less religious, and drug victim* . The construct *regretful over his past*, had a moderate negative loading on this component and, to this extent, contrasted with current self, though its communality was low.

Mr. YA's current self was rated as being very dissimilar to his ideal self (each was located on a different component), and falls in the quadrant of *drug victim, takes drugs, behaves in a strange way.* In addition, the current self was viewed as being similar to the role figures Drug Addict and Drug Dealer

The plot of elements on these two components (Figure 30) indicates that both the role figures Ex-Drug-User and Non-Drug-User Person were the most similar to the ideal self.

Construct correlations

Table 70 presents the construct intercorrelations, based on Spearman's *rho*. It can be seen that the self aspects: past self, current self, and ideal self, did not intercorrelate, at a significant level.

The past self (Me before I became involved in drugs) did not demonstrate a significant correlation with any of the constructs that were used by Mr. YA.

The current self correlated significantly with 9 out of the 16 constructs in the grid: It correlated significantly with *Takes drugs* (*rho* = 0.618, *P*< 0.012), *Behaves in a strange way* (*rho* = 0.845, *P*< 0.001), *Less religious* (*rho* = 0.598, *P*< 0.015), and *Drug victim* (*rho* = 0.66, *P*< 0.007). The current self, for Mr. YA, related inversely to *Fortunate* (*rho* = 0.63, *P*< 0.01), *Successful* (*rho* =0.687, *P*< 0.005), *Useful* (*rho* =0.67, *P*< 0.006), and *People need him* (*rho* =0.57, *P*< 0.02).

The ideal self correlated negatively and significantly with *takes drugs* (*rho* = -0.766, *P*< 0.001), *Behaves in a strange way* (*rho* =-.59, *P*< 0.016), *Less religious* (*rho* =-0.815, *P*< 0.001), *Drug victim* (*rho* =-0.666, *P*< 0.006), *Unlucky* (*rho* =-0.73, *P*< 0.002), and with *Unhappy* (*rho* =-0.63, *P*<01).

In addition, there were strong positive correlation between the ideal self and each of the following constructs: *Respected* (*rho* =0.795, *P*< 0.001), *Fortunate* (*rho* = 0.717, *P*< 0.003), *Successful* (*rho* =0.81, *P*< 0.001), *I like him* (*rho* =0.659, *P*< 0.007), *Useful*(*rho* =0.627, *P*< 0.01), and *People need him* (*rho* =0.63, *P*< 0.01).

TABLE: 70 Construct intercorrelation for Mr.YA's grid using Spearman's *rho*. N=13 Elements.

Construct	*rho*													
DRUG ADDICT	X													
BEHAVES IN A STRANGE WAY	.8451 *P .000*	X												
RESPECTED	-.7411 *P .002*	-.8043 *P .000*	X											
LESS-RELIGIOUS	.9272 *P .000*	.7493 *P .002*	-.6450 *P .009*	X										
DRUG VICTIM	.9766 *P .000*	.8096 *P .000*	-.6168 *P .012*	.9312 *P .000*	X									
FORTUNATE	-.7882 *P .001*	-.8144 *P .000*	.7816 *P .001*	-.8144 *P .000*	-.7750 *P .001*	X								
SUCCESSFUL	-.8596 *P .000*	-.8816 *P .000*	.8753 *P .000*	-.8456 *P .000*	-.7978 *P .001*	.9263 *P .000*	X							
I LIKE HIM	-.7234 *P .003*	-.7992 *P .001*	.9342 *P .000*	-.5887 *P .017*	-.5935 *P .016*	.6647 *P .007*	.8176 *P .000*	X						
REGRETFUL OVER HIS PAST	-.3245 *P .140*	-.2314 *P .223*	.3301 *P .135*	-.2568 *P .199*	-.3449 *P .124*	.4658 *P .054*	.3774 *P .102*	.1275 *P .339*	X					
USEFUL	-.9158 *P .000*	-.9102 *P .000*	.6880 *P .005*	-.8632 *P .000*	-.9209 *P .000*	.8594 *P .000*	.8797 *P .000*	.6501 *P .008*	.2533 *P .202*	X				
PEOPLE NEED HIM	-.8510 *P .000*	-.7946 *P .001*	.6343 *P .010*	-.9011 *P .000*	-.8702 *P .000*	.7724 *P .001*	.7653 *P .001*	.5921 *P .017*	.0766 *P .402*	.8614 *P .000*	X			
UNLUCKY	.8875 *P .000*	.5991 *P .015*	-.6221 *P .012*	.8019 *P .000*	.8628 *P .000*	-.6025 *P .015*	-.6338 *P .010*	-.5967 *P .016*	-.3937 *P .092*	-.6729 *P .006*	-.6461 *P .009*	X		
UNHAPPY	.6525 *P .008*	.5999 *P .015*	-.7800 *P .001*	.5242 *P .033*	.5346 *P .030*	-.6776 *P .005*	-.6845 *P .005*	-.7957 *P .001*	-.2103 *P .245*	-.5512 *P .025*	-.4859 *P .046*	.6317 *P .010*	X	
PAST SELF	.0008 *P .500*	-.1677 *P .292*	.3155 *P .147*	.1735 *P .285*	.1259 *P .341*	-.0811 *P .396*	-.0044 *P .494*	.3030 *P .157*	-.2265 *P .228*	-.0077 *P .490*	-.0920 *P .382*	-.0567 *P .427*	-.2812 *P .176*	X
SELF	.6187 *P .012*	.6434 *P .009*	-.4379 *P .067*	.5981 *P .015*	.6619 *P .007*	-.6328 *P .010*	-.6871 *P .005*	-.3630 *P .111*	-.6004 *P .015*	-.6732 *P .006*	-.5726 *P .020*	.3435 *P .125*	.1584 *P .303*	.3986 *P .089* X
IDEAL SELF	-.7660 *P .001*	-.5937 *P .016*	.7951 *P .001*	-.8159 *P .000*	-.6667 *P .006*	.7170 *P .003*	.8118 *P .000*	.6592 *P .007*	.3400 *P .128*	.6275 *P .011*	.6312 *P .010*	-.7310 *P .002*	-.6307 *P .010*	**.1210** *P .347* **-.3805** *P .100*
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14** **15**

Note: correlations between the different aspects of the Self appear in bold face.

Case 6: Mr. EL

Case background

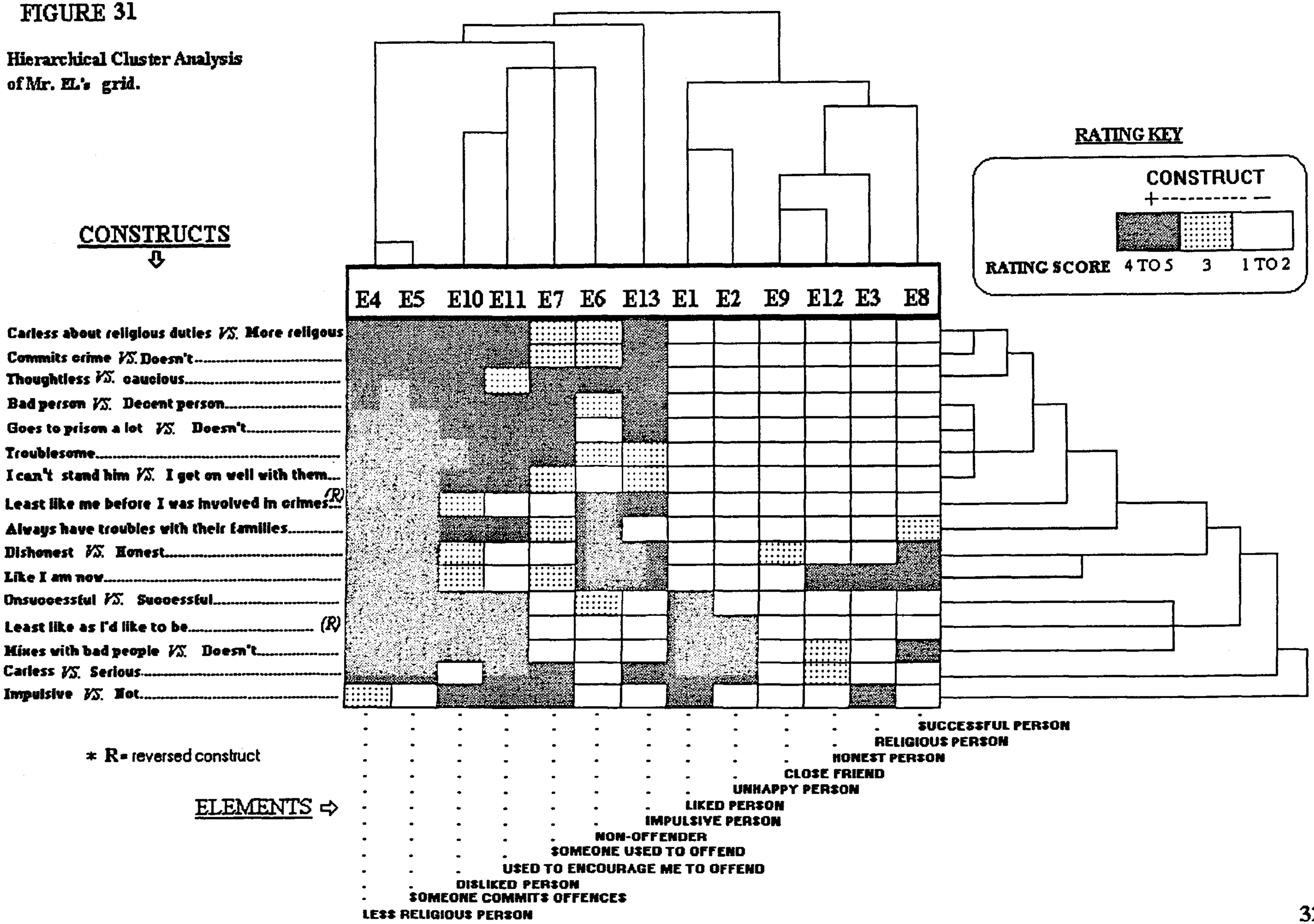
Mr. EL was an 18 year-old criminal offender. He had been convicted of sexual assault. He was serving his sentence at the Social Observation Centre in Riyadh. At the Centre he was enrolled in a juvenile offender rehabilitation programme which includes educational classes and limited recreational activity. His mother was divorced when he was eleven and he had been raised by his mother and his step-father. He explained that he always liked being independent. He could not establish a working relationship with his step-father and, in Mr. EL's own words, "I can never get on well with him". At the age of 16 he was involved, on two occasions, in theft. Nevertheless, his educational career had gone relatively well until he reached the second year in high school where his school achievement began to weaken. His IQ was 98, as measured by the YIT.

Cluster Analysis

Shown in Figure 31, is Mr. EL's grid, rearranged in the light of its accompanying hierarchical cluster analysis. It appears that, in Mr. EL's construct system, the construct: *careless about religious duties vs. more religious* goes with the constructs *commits crimes vs. doesn't,* and *thoughtless person.* These constructs were very closely related to *bad person vs. decent person, goes to prison a lot vs. doesn't, troublesome,* and *I can't stand him vs. I get on well with him.* As can be observed from the construct tree, these constructs are used very differently from the constructs: *careless vs. serious* and *impulsive vs. not impulsive.* They were the last to join this construct cluster. Mr. EL applied all the constructs denoting negative qualities, except the construct *impulsive,* to the role figures: Someone who Commits Crimes (E5), Less Religious Person (E4). Mr. EL construed the Disliked Person (E10) as similar to the role figure "Someone Who Used To Encourage Me To Offend" (E11).

FIGURE 31

Hierarchical Cluster Analysis of Mr. EL's grid.



Mr. EL viewed the Close Friend (E9), the Honest Person (E12), the Religious Person (E3), and the Successful Person (E8) as being similar to each other (these elements formed a subcluster within the element tree). He viewed his past self (me before I became involved in crimes) as least characteristic of constructs which have negative qualities. Moreover, his current self (me now) was also described in terms of negative characteristics. Similarly, his ideal self (me as I would like to be), was construed as least similar to those construct which are generally denote negative qualities. Further, the ideal self, for Mr. EL, was construed as extremely dissimilar to his current self.

Principal Component Analysis

Shown in Figure 32 is a Scree plot which indicates, in conjunction with Kaiser's criterion, that only two components should be considered for interpretation. Table 71 shows the two-component solution, and includes component loadings, related communalities, proportion of variance accounted for by each component, and total variance accounted by the two components. A plot of constructs and elements, based on the two-principal component solution of Mr. EL's grid is displayed in Figure 33. The first component accounted for 39.7% of the total variance. It can be seen that the constructs *Dishonest, Thoughtless, Careless about religious duties, Commits crimes,* and the current self were more characteristic of Component One (loadings > 0.74 on this component). The past self loaded on the opposite pole of this component and was construed as being similar to the Liked Person, and to the Religious and Unhappy role figures.

FIGURE 32 Scree Test (Mr. EL's Grid data)

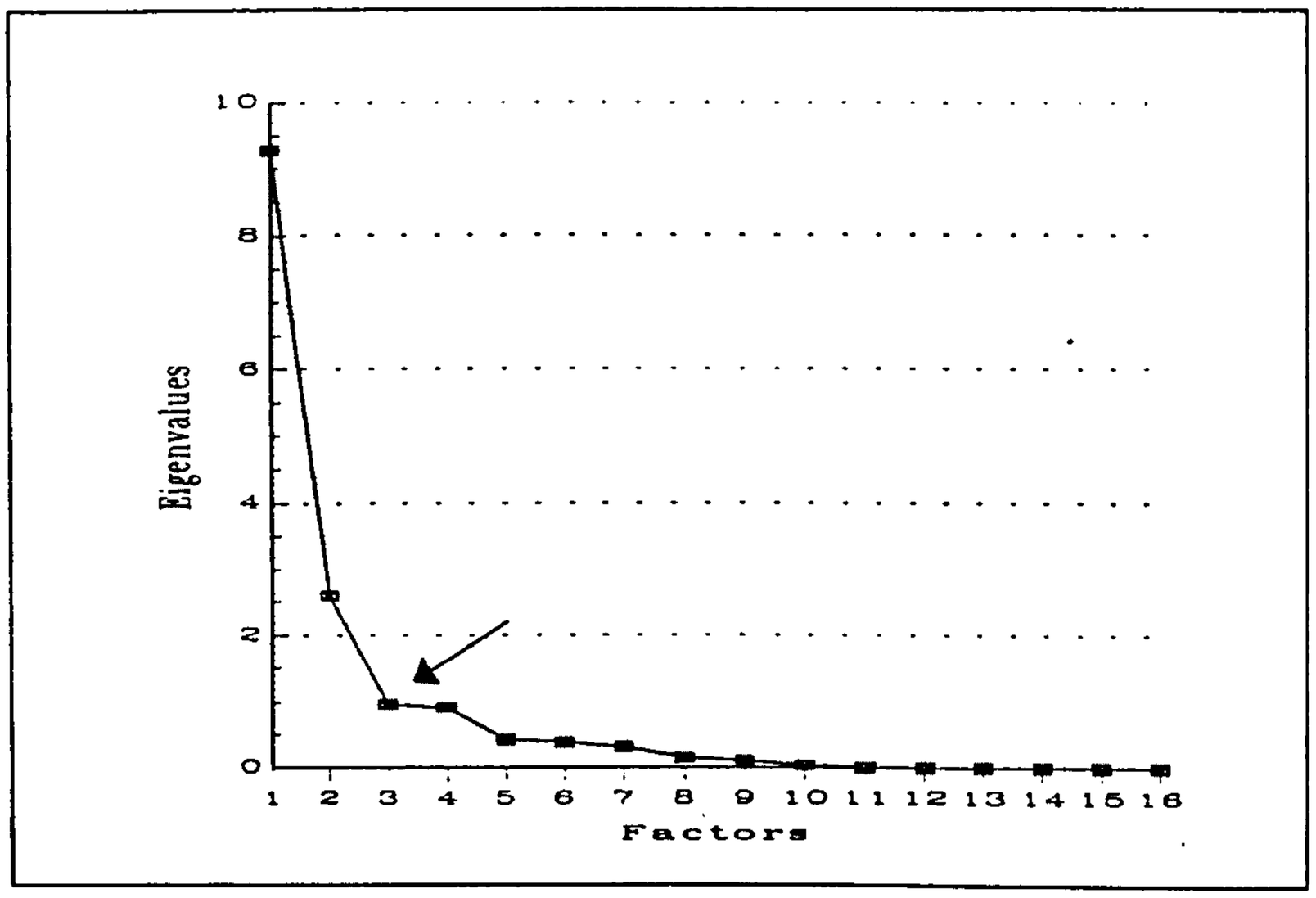
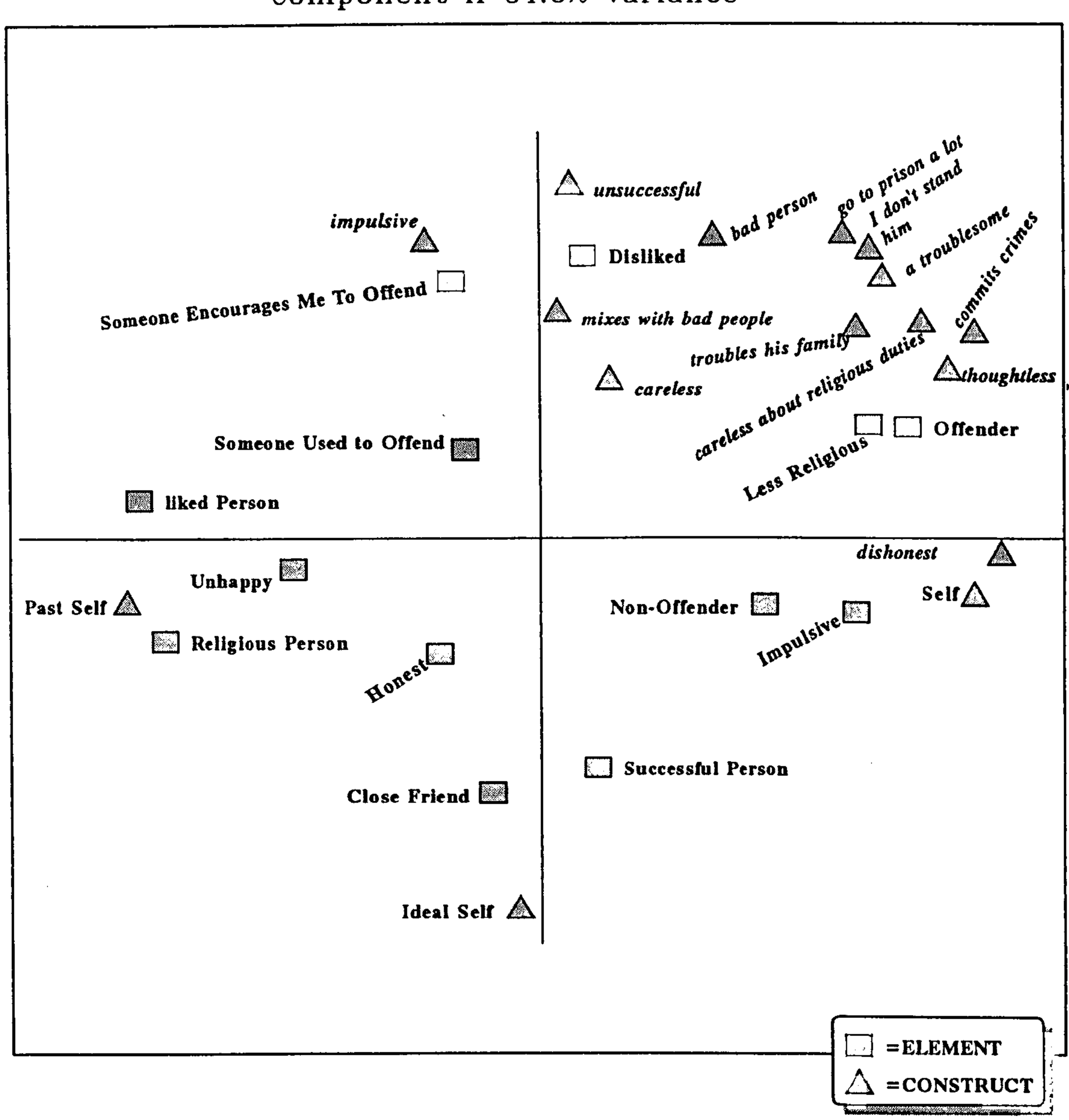


TABLE 71 Construct loadings on first and second components derived by Varimax rotation- Mr. EL's Grid data.

Construct	Component I	Component II	h^2
BAD PERSON	.65427	.70298	.92225
THOUGHTLESS	.80560	.49943	.89842
CARELESS ABOUT RELIGIOUS DUTIES	.74483	.58732	.89972
COMMITS CRIMES	.81398	.54070	.95491
TROUBLESOME	.67006	.70471	.94559
I DON'T STAND HIM	.64917	.71886	.93818
UNSUCCESSFUL	.07941	.83497	.70348
IMPULSIVE PERSON	-.46177	.63992	.62272
MAKE PROBLEMS WITH HIS FAMILY	.53637	.52164	.55980
CARELESS	.20398	.32721	.14868
DISHONEST PERSON	.88777	-.09504	.79716
GOES TO PRISON A LOT	.58240	.72762	.86862
MIXES WITH BAD PEOPLE	.08434	.54630	.30556
ME BEFORE	-.86154	-.28657	.82438
ME NOW	.87227	-.17381	.79106
ME AS I'D LIKE TO BE	-.04099	-.84262	.71170
Variance	39.7%	43.6%	$\Sigma = 74.3$

FIGURE 33 Principal Components Analysis of Mr. EL's grid data after Varimax rotation.



The Second Component, in Mr. EL's grid has high loadings from *Unsuccessful, Impulsive, Mixes with bad-people, Bad person, Troublesome,* and *I can't stand him.* These constructs were used to described the role figure "Someone Who Used to Encourage Me To Offend" (Element 11). In addition, the Ideal self was located on the negative pole of this Second Component (i.e., rejecting all these undesirable qualities) and was construed to be closely related to the role figures Honest (Element 12) and Close Friend (Element 9).

Construct correlations

Table 72 shows construct intercorrelations from Mr. EL's grid, based on Spearman's *rho.* This shows that, in Mr. EL's construct system, the past self (Me before involvement in offending) correlated positively and significantly (*rho* =0.565, *P*< 0.022) with his ideal self (Me as I would like to be). The current self (Me now) correlated negatively with his ideal self (*rho* =-0.558, *P*< 0.024). However, no correlation was found between the current self and the ideal self (*rho* = 0.0876). Almost all of the constructs, which are generally negative in nature, related inversely with the past self. There was a negative correlation between the past self and *Bad-person* (*rho* =-0.823, *P*< 0.001), *Thoughtless* (*rho* =-0.923, *P*< 0.001), *Careless about religious duties* (*rho* =-0.874, *P*< 0.001), *Commits crimes* (*rho* =-0.873, *P*< 0.001), *Troublesome* (*rho* =-0.813, *P*< 0.001), *I can't stand him* (*rho* =-0.78, *P*< 0.001), *Has problems with his family* (*rho* =-0.463, *P*< 0.055), *Dishonest* (*rho* =-0.60, *P*< 0.015), and *Goes to prison a lot* (*rho* =-0.795, *P*< 0.001).

TABLE: 72 Construct intercorrelation for Mr. EL's grid using Spearman's *rho*. N=13 Elements.

Construct	*rho*													
BAD PERSON	X													
THOUGHTLESS	.8688	X												
	P .000													
CARELESS ABOUT	.8981	.9595	X											
RELIGIOUS DUTIES	P .000	P .000												
COMMITS	.8756	.9588	.9620	X										
CRIMES	*P .000*	*P .000*	*P .000*											
TROUBLESOME	.9432	.9220	.9056	.9132	X									
	P .000	*P .000*	*P .000*	*P .000*										
CAN'T STAND	.9662	.8998	.9064	.8987	.9594	X								
HIM	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*									
UNSUCCESSFUL	.5240	.4393	.4598	.4101	.6066	.5842	X							
	P .033	*P .067*	*P .057*	*P .082*	*P .014*	*P .018*								
IMPULSIVE	.1659	.0287	.1004	-.0354	.2142	.1567	.5377	X						
	P .294	*P .463*	*P .372*	*P .454*	*P .241*	*P .305*	*P .029*							
HAS FAMILY	.6980	.5545	.5547	.6371	.7688	.7239	.5482	.1223	X					
PROBLEMS	*P .004*	*P .025*	*P .025*	*P .010*	*P .001*	*P .003*	*P .026*	*P .345*						
CARELESS	.3231	.3110	.3056	.3113	.2636	.3060	.1826	-.2304	-.0504	X				
	P .141	*P .151*	*P .155*	*P .150*	*P .192*	*P .155*	*P .275*	*P .224*	*P .435*					
DISHONEST	.4137	.6247	.5556	.7119	.5451	.4818	.0636	-.5173	.5811	.1546	X			
	P .080	*P .011*	*P .024*	*P .003*	*P .027*	*P .048*	*P .418*	*P .035*	*P .019*	*P .307*				
GOES TO	.9528	.8395	.8664	.8608	.9120	.8871	.4398	.1706	.6235	.2971	.3813	X		
PRISON A LOT	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .000*	*P .066*	*P .289*	*P .011*	*P .162*	*P .099*			
MIXES WITH	.3441	.2455	.2648	.3696	.3632	.3728	.5169	.0059	.3067	.4378	.2949	.3254	X	
BAD PEOPLE	*P .125*	*P .209*	*P .191*	*P .107*	*P .111*	*P .105*	*P .035*	*P .492*	*P .154*	*P .067*	*P .164*	*P .139*		
PAST SELF	-.8230	-.9239	-.8742	-.8730	-.8135	-.7834	-.3055	.1351	-.4637	-.4024	-.6033	-.7958	-.1929	X
	P .000	*P .000*	*P .000*	*P .000*	*P .000*	*P .001*	*P .155*	*P .330*	*P .055*	*P .086*	*P .015*	*P .001*	*P .264*	
SELF	.3696	.5847	.4877	.6125	.4340	.4884	.0115	-.5051	.3825	.2554	.8288	.2197	.2697	-.5586	X
	P .107	*P .018*	*P .045*	*P .013*	*P .069*	*P .045*	*P .485*	*P .039*	*P .099*	*P .200*	*P .000*	*P .235*	*P .186*	*P .024*	
IDEAL SELF	-.6490	-.4945	-.5330	-.4894	-.6035	-.5440	-.6567	-.2563	-.3192	-.5202	-.0741	-.6911	-.6191	.5656	.0876
	P .008	*P .043*	*P .030*	*P .045*	*P .014*	*P .027*	*P .007*	*P .199*	*P .144*	*P .034*	*P .405*	*P .004*	*P .012*	*P .022*	*P .388*
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**

Note: correlations between the different aspects of the Self appear in bold face.

Furthermore, the current self, in Mr. EL's construct system, correlated positively with almost all of the constructs. That is to say, Mr. EL construed himself (current self) as being closely related to those qualities which appear as undesirable and were inapplicable to his past self.

MISSING

PAGES

NOT

AVAILABLE

Mr. NA

The various statistical analyses of Mr. NA's grid have demonstrated that there was a consistent tendency for him to construe drug experience and the addiction role positively. This was evidenced by the pattern of clustering shown in Figure 16. Although he construed drug-abusing people in extremely negative way (i.e., he described them in terms of the negative poles of all the elicited constructs most of which denoted positive values), he still favours the company of these people. On the other hand, his grid revealed that almost all people who were not associated with the use of illicit drugs were rated as "least liked" by Mr. NA. The principal component analysis (Figure 18), which resulted in two main components, demonstrated that all three self aspects loaded on the second component, indicating a high degree of similarity between the past, current, and ideal self (with loading of 0.847, 0.729, 0.791, respectively).

The analysis of construct intercorrelations (Table 62), confirmed in terms of Spearman's *rho* that the current and the ideal self, for Mr. NA, were positively and significantly interrelated. This pattern of relationships (or self-ideal self distance) reflects what is termed by Norris and Makhlouf-Norris (1977) as *self-convergence*. According to Norris and Makhlouf-Norris, if such a pattern of relationships between the current and ideal self occurs, the subject is unlikely to be willing to consider any change in himself. In the case of Mr. NA, this seems to be so.

According to the configuration of Mr. NA's construct system, as shown by Cluster analysis, Principal components analysis, and correlation analysis of his

grid, it is apparent that the strength of his willingness to consider abandoning the use of illicit drugs, is in proportion to the level of his general tendency to feel guilty. His score on the Guilt-Proneness Scale (**GPS)** was in the low range (a score of 134).

Mr. SM

The grid analysis has probed a strong tendency for Mr. SM construe drug experience negatively. The analysis has also revealed strong willingness for Mr. SM to consider abandoning illicit drug use. According to the cluster analysis (Figure 19) there is minimal similarity between his ideal self and drug-related role figures (the construct "like I would like to be" was given a 0 rating on those role figures).

The cluster analysis also demonstrated that, while Mr. SM perceived his ideal self as closely related to positive constructs such as *nice person vs. bad person, confident vs. less confident, respectable vs. unrespectable*, he condemned himself by construing himself as similar to the role figures: "unhappy person" and "impulsive person".

Construct intercorrelations (Table 64) indicated that there was a pattern of *self-alienation* (as explained in Norris, *et al.*, 1977), where the current self and the ideal self were widely dissimilar (*rho* =-0.11). Furthermore, there was a strong wish for Mr. SM to redeem some positive characteristics of his drug-free past (My self before involvement in drugs). This was evidenced by the strong and significant positive association between the ideal self and past self (*rho* = 0.69, *P*< 0.004).

More interesting findings in Mr. SM's grid was that he construed the role element "Less Religious Person", who was his uncle - the person who had introduced him to alcohol - as *not respectable, tried drugs, bad-company* and *unwanted person.*

His positive degree of willingness to consider abandoning the use of illicit drugs appears to be well in proportion to his score on the **GPS** measure of guilt-proneness. His score on the **GPS** was 186, and he was classified as a high-guilt subject.

Mr. AS

The analysis of Mr. AS's grid has reflected moderate attitudes towards the use of illicit drugs. As shown in the cluster analysis (Figure 22), he applied the constructs: *rejected, less respected, irresponsible*, as well as the constructs *I like his company, encourages me to take drugs,* and *I sympathise with him* to the drug-related role figures: Drug Addict, and Drug Dealer. In contrast, he applied the opposite poles of these construct to the Non-drug-abuser and Ex-Drug-Abuser role figures. This pattern of construct-element interaction may be interpreted as a *splitting mechanism* (as discussed by Ryle, 1975) within the construct system of Mr. AS. This is a pattern which suggests less commitment on the part of Mr. AS for considering giving up the use of illicit drugs.

The principal component analysis (Figure 24) has demonstrated support for the assessment of Mr. AS's grid as derived by cluster analysis. The grid data

were explained by two components (accounting for 87.3% of the variance). His ideal self (like I would like to be) was closely related to his past self (Like me before involvement in drugs), suggesting that he wants to be similar to his past self, when he used not to be a drug-abuser. But at the same time he wants to be rather similar to his current self (i.e., self on drugs). This is indicated by the fact that both the current self and ideal self, for Mr. AS, loaded strongly on the first component.

The significant positive association between the past self, the current self and the ideal self as revealed by construct intercorrelations (Table 66), indicated that there is a strong tendency for Mr. AS to construe his past self favourably. However, according to the observed level of association between his current self and his ideal self (*rho* =0.64), there seems to be a moderate tendency for Mr. AS to retain the drug abuse role (i.e., self on drugs). It is, therefore, quite reasonable to relate this moderate, ambivalent degree of willingness to give up the use of illicit drugs to his moderate score on the Guilt-Proneness Scale (**GPS**) (a score of 140).

Mr. AH

The analyses of Mr. AH's grid as derived by cluster analysis (Figure 25), principal component analysis (Figure 27) and construct intercorrelations (Table 68), have, generally, indicated a high tendency for Mr. AH to construe drug experience negatively. The cluster analysis has indicated a marked shift between his current self (self on drugs) and his ideal self. He has perceived the drug addiction role in a very unfavourable way. His past self was associated with positive characteristics such as *thoughtful, doesn't run risks,* and *lucky.* He wishes to redeem these positive qualities in his past, while he strongly wants to be different from his current self (self on drugs). Moreover, the ideal self was construed as similar to non-drug-user role figures. Mr. AH indicated that he would like to be similar to the Non-drug-abuser, the Ex-Drug-Abuser and the Religious Person, the Successful Person, and the Close Friend.

The current self (i.e., self on drugs), for Mr. AH, was perceived to be closely related to *runs risks, has problems, is unlucky* and *badly-behaved* (all these constructs belong to the second cluster).

Principal component analysis (Figure 27) has revealed two main components accounting for 81.1% of the total variance. In the first component, the current self (Me Now) loaded negatively (with a loading of -0.835) and was located close to the role figures Impulsive Person, Unhappy Person and Drug Addict.

The past self (Me before involvement in drugs) and the ideal self (Like I would like to be) both loaded on the second component, indicating high dissimilarity to the current self. Construct intercorrelations (Table 68) demonstrated a pattern of *self-alienation* (as explained in Norris, *et al.*, 1977) in Mr. AH's construct system, where the current self did not resemble to the ideal self.

Mr. AH's positive degree of willingness to abandon the use of illicit drugs, as revealed by the analysis of his grid, appears to be in proportion to his score on the GPS. His score on the Guilt-Proneness Scale (**GPS)** was 180, and he was classified as a high-guilt subject.

Mr. YA

The results based on Hierarchical cluster analysis, principal component analysis and construct intercorrelation (Figures: 28-30 and Tables: 69 and 70) indicates a general tendency for Mr. YA to have a moderate negative attitude towards the use of illicit drugs. Cluster analysis (Figure 28) showed that the ideal self (Like I would like to be) was closely related to a group of positive constructs: *respected by people vs. least respected, I like him vs. least I like him, decent person vs. behaves in a strange way, people need him vs. hopeless, fortunate vs. unfortunate, successful vs. unsuccessful,* and *useful person vs. least useful.* The ideal self appeared to be perceived in ways extremely dissimilar to his current self (self on drugs). Moreover, he construed his current self as very similar, in character, to drug-abuse related people.

He construed his current self as similar to the role figures: Drug Addict and Drug Dealer. Principal component analysis, which uncovered two main components accounted for 78.5% of the total variance, and indicated that the ideal self, for Mr. YA, was construed as similar to the role figures Ex-Drug-User, Non-Drug-User, Liked Person and Religious Person. On the other hand, his ideal self was contrasted to drug-related role figures such as Drug Dealer, Drug addict; and was also contrasted to the constructs *takes drugs, drug victim, behaves in a strange way* and *unlucky.* While the ideal self is highly associated persons (role figures) who do not abuse drugs, the current self remains strongly identified with drug-related role figures, and is seen as similar to one who *takes drugs, is a drug victim,* and *behaves in a strange way.*

The significant correlation found between the ideal self construct and a group of constructs which are, in Mr. YA's construct system, inapplicable to drug-abuser role figures, suggests a possibility for change to a non-drug-abuser role. However, in view of the strong association between the current self and several negative constructs (e.g., *takes drugs, drug victim, behaves in a strange way etc.)* on the one hand, and the strong link between the current self and drug-related role figures on the other, the change process for Mr. YA would seem likely be a slow one. His score on the **GPS** measure of guilt-proneness was in the medium range (a score of 178). This moderate level of guilt-proneness appears to be in proportion to his degree of willingness to abandon the use of illicit drugs, as revealed by the analysis of his grid.

Mr. EL

The results of Mr. EL's grid, based on cluster analysis (Figure 31), principal component analysis (Figure 33), and construct intercorrelation (Table 72), demonstrate a general tendency for moderate negative attitudes towards involvement in criminal offending.

Hierarchical cluster analysis has indicated that the current self was construed as closely related to constructs which are mostly of negative qualities such as *mixes with bad people vs. doesn't, unsuccessful vs. successful, dishonest vs. honest, bad person vs. decent person,* and *commits crimes vs. doesn't.* The ideal self, on the other hand, was construed to be extremely dissimilar to these constructs.

The plot of constructs and elements on the two main principal components in Mr. EL's grid (Figure 33) shows that the current self was located on the first component and identified with the role figures Offender, Less-Religious, and Impulsive. The past self was located on the opposite pole of this component and was identified with the Unhappy and Religious Person role figures. The plot also indicate that the ideal self, for Mr. EL, tends to have different characteristics from that of either the past self or the current self. It was located in quite an isolated position in construct space, but also tended to be more identified with the Close Friend and Successful Person role figures.

In addition, the analysis of Mr. EL's grid reveals a strong association between the current self and negative constructs (Table 72). There was a clear similarity between the current self and the role figure Impulsive Person on the one hand, and between the current self and the construct: *dishonest vs. honest*

on the other. This suggests that, while there was a tendency for Mr. EL to be to be different from what he was, this tendency seems be undermined by his favourable attitudes to criminal offending role. Mr. EL's low score on the **GPS** measure of guilt-proneness (129) which classifies him as a low-guilt subject, seems to be relevant to his overall rather low degree of willingness to change in his offending behaviour.

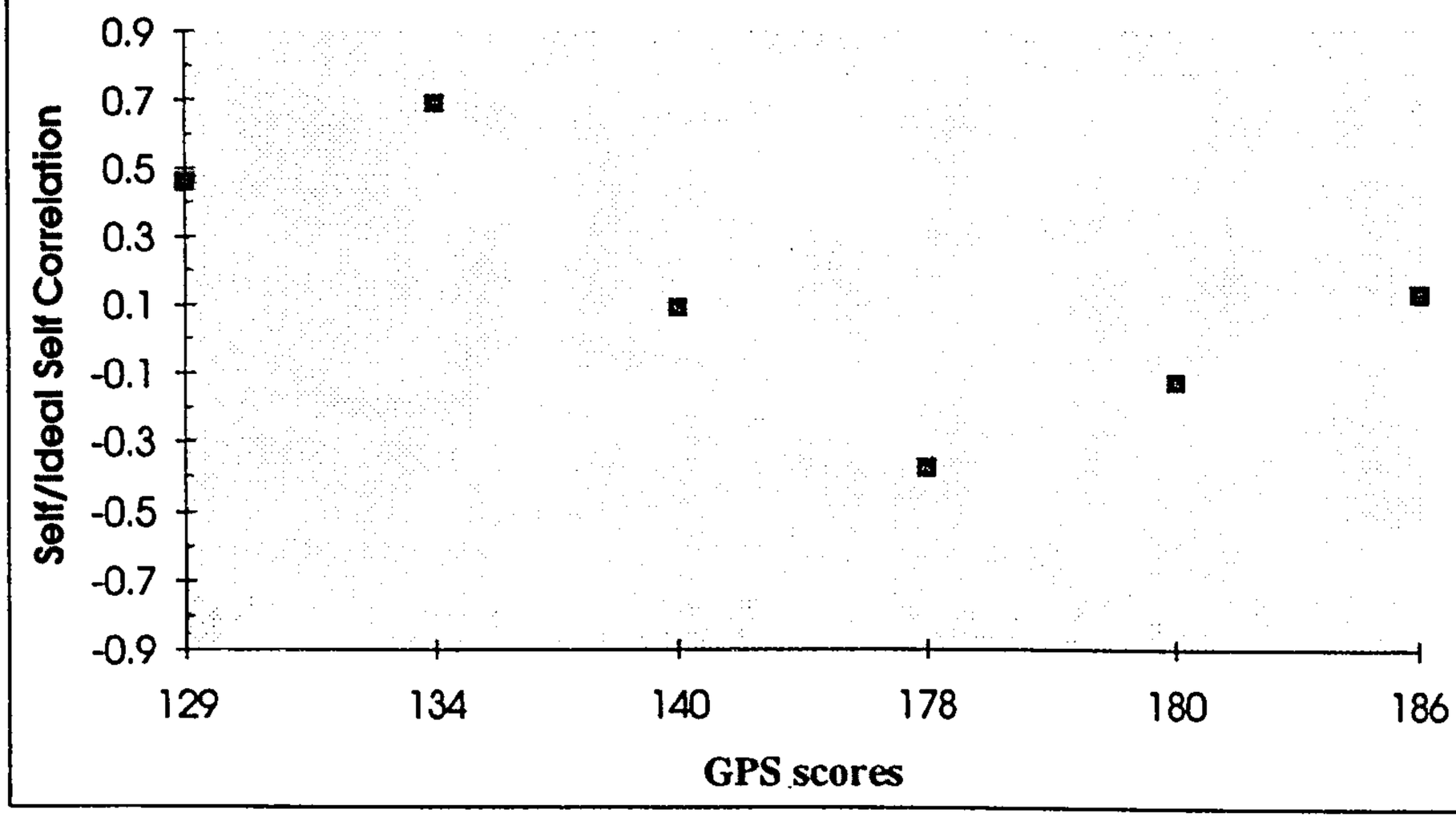
Level of Integration between Current Self and Ideal Self and its Relationship to Guilt-Proneness: Scores for the Six Cases Combined.

In this section the relationship between *self-integration* (Norris, 1977) as a direct measure of assessing the degree of the subject's readiness to change is examined. The level of *self-integration* is defined, by Norris, as the correlation or distance between the subject's current self and their ideal self. According to Norris, high levels of self-integration would indicate that the illicit drug abuser or the criminal offender is unlikely to change (or even accept ways of changing) his or her current offending or illicit-drug taking role. Therefore, I predicted that low self-integration would be associated with high **GPS** total score.

In each individual's grid data, the correlation across elements between the "Self now" construct and their "Ideal self" construct was taken as an index of *self-integration* (see, Norris, 1977). Across all 6 subjects, the self integration coefficients were correlated with the GPS total scores, using Pearson correlation coefficient.

A correlation between GPS total scores and subject's current self-ideal self correlation these two variables was sufficiently strong to emerge as significant and in the predicted direction (-0.7561, $p< 0.041$). As can be seen from the scatter plot in Figure 35, there is a tendency for the values of current self to ideal self correlation coefficients to be associated negatively with **GPS** scores.

FIGURE 34 Scatter plot representing relationship of Current-self/Ideal-self level of Integration to Guilt-Proneness scores for the six cases.



This pattern of relationship across subjects is an interesting finding. It help us generalise beyond the individual grid data, and suggests that low guilt-prone subjects tend to show relatively little intention to change their current illicit drug use or offending roles, whereas the high guilt-prone subjects are more likely to change from such illicit drug use or criminal offending roles.

Although the study presented in this chapter has been primarily a series of individual studies meant to provide examples of the use of the Guilt-Proneness Scale (**GPS**) in a small number of clinical cases, the observed pattern of correlation across the six cases does indeed encourage further nomothetic investigation of this pattern of relationship in a larger sample of subjects.

Chapter Sixteen

General Discussion And Conclusions

The main aim of this research was to investigate the adaptive role of guilt proneness in inhibiting illicit drug use and criminal behaviour of male juvenile Saudi Arabians. Since there was no measure for guilt proneness available for use with subjects of Islamic background, it became our task, in this research project, to develop and validate an instrument designed especially for the assessment of guilt-proneness in Saudi individuals, and possibly also applicable to individuals of similar Islamic sociocultural context.

A number of psychologists (Mosher, 1966, 1967, 1968, 1979, 1980, 1985; Grinder & McMichael, 1972; Izard, 1977; Opp & Samson, 1989; Tangney, 1992; Pearson, 1977; Schill & Althoff, 1975; Ungerer *et al.*, 1976; P. Potter-Efron, 1990; R. Potter-Efron, 1988, 1989; Zahn-Waxler, 1990) have recognised the positive role of guilt and its application to the psychology of drug abusers and criminals. However, most existing research on guilt has been conducted in Western (or Western-oriented) cultures, and no scientific study, until now, has been conducted for exploring the function of guilt-proneness in the Arab culture.

Perhaps one reason for the absence of research on this area, in the Arab world in general and in Saudi Arabia in particular, has been the lack of a culturally appropriate instrument for the assessment of guilt and its application to the psychology of the illicit drug abusing and criminal population.

Since guilt experiences vary considerably as a function of sociocultural factors (Grider & McMichael, 1972; Izard, 1977; Kochanska, 1990; Marsella, 1980;

Ross, 1975; Zahn-Waxler, 1990), direct application of a guilt measure outside its cultural relevance may not prove to be successful.

At a therapeutic level, Saleh (1986, P. 71) emphasises a serious problem that could arise from automatic implementation of psychological instruments which are developed for use in Western cultures, in the diagnosis and treatment of clients of a different culture. Thus, the lack of guilt measures in an Islamic-oriented society such as Saudi Arabia and the inappropriateness of automatic use of existing Western guilt measures, has dictated the necessity, for devising a new guilt-proneness scale.

The new guilt-proneness scale (GPS) which has been developed in this research project, was based on the Mosher social learning conceptualisation of guilt (Mosher, 1966, 1967, 1968, 1979, 1980, 1985). I have adapted Mosher's definition of guilt-proneness, where he defines guilt as "a generalized expectancy of self-mediated punishment (i.e., negative reinforcement) for violating or failing to attain internalized standards of proper behaviour" (Mosher, 1965, p. 162, 1985, p. 602). However, the content of scale items and test domain, in the present study, had to receive careful consideration during the process of the scale construction in order to ensure that the GPS would fit the Saudi culture.

The investigation of the Guilt-Proneness Scale (GPS), reported in the present research, has provided strong support for psychometric soundness of the GPS as a suitable measuring instrument for guilt-proneness in Saudi Arabia. The results of the present study have uncovered a-three-factor model for the phenomenon of guilt-proneness in the Saudi culture.

Utilising an exploratory factor analytic approach, three aspects of guilt-proneness were discovered: (*a*) religious-related guilt (RG), which relates guilt feelings that are evoked by violation of a religious code or obligation, (*b*) self-oriented guilt (SG) which relates to guilt feelings that are evoked by violation of personally-set standards or values, (*c*) social-oriented guilt (SOG) which represents guilt feelings that are evoked as a result of transgression or harm done to others.

Although these findings appear to be consistent with the existing theorising which suggests a multidimensional model for guilt (e.g., Mosher, 1966, 1967, 1968, 1985; Evans, Jessup & Hearn, 1975, Mandel, 1976; Grinder & McMichael, 1972; Caprio, 1986; Tangney, 1992; Opp & Samson, 1989), the factor-model resulting from the present study with Saudi subjects is not 'identical' to those models that have been found to characterise the phenomena of guilt in the West.

This difference in the pattern of guilt-proneness in the two cultures (the Saudi and the West cultures) is an especially important finding because it asserts the role of cultural differences in shaping the nature of guilt. It should be noted that while Mosher Guilt Scales (MGS) has been shown to be a powerful measuring instrument for tapping guilt proneness, the MGS can be said to be relevant to the nature of social and religious standards that are applicable generally to the Western culture and therefore the MGS is not free of 'cultural specificity'.

That is to say, the different aspects that the MGS is measuring, are found to be applicable to the American (or Western) culture. Therefore, one would not expect high degree of similarity in the pattern of guilt cross cultures. Furthermore, because of the obvious differences in the internalised religious and

social standards between the Western and Saudi cultures, it would be reasonable to expect what is counted as a guilt-related situation to differ cross-culturally. Consequently, experiences of guilt may only be triggered by transgression of tabooed behaviours, or violation of standards of proper conduct that are relevant to a given culture.

Grinder and McMichael (1972), and Izard (1977) discussed the influence of culture on the nature of guilt. Izard related the difference in the pattern of guilt to the variations between societies in the broad sphere of morality, ethics, and religion. Marsella (1980) concluded that not only the nature of guilt differs from one culture to another, but also the manifestation of guilt varies cross culturally. Therefore it would appear to be appropriate to relate the resulting model of guilt in the present study to the cultural frame of reference of the Saudi culture. The learning processes involving guilt perhaps do not vary much according to general learning principles, and should be expected to be similar across cultures (e.g., Bandura, 1977, 1991; Bandura & Walters, 1963). However, each culture reinforces particular moral, ethical, social or, religious values, and hence what can be considered as a guilt-inducing situation in a given culture may not necessarily evoke guilt feelings in another culture. Hence, cultural variations appear to have an important underlying influence in shaping guilt model in a given society.

In comparing the Saudi Arabian culture with the Western culture, the differences between the two are, perhaps, more obvious than the differences between Western cultures and other cultures (including some other Islamic-oriented cultures). The uniqueness of the Saudi culture is perhaps stems from three main factors: Firstly, since Islam was introduced to the people of Arabian peninsula,

Islam has continued to regulate and influence various aspects of life. Secondly, up to date Saudi Arabia is the only country in which Islam is the primary source of justice system (Hasanein, 1982; Murad, 1976; Schacht, 1964; Al-Farsy, 1986; Ministry of Information, 1993). Thirdly, unlike other Islamic or Asian nations, Saudi Arabia has not been subjected to foreign colonisation (Schacht, 1964) and therefore principal elements of its culture have remained to some degree 'intact'.

In comparing Mosher's model of guilt-proneness with the model found for the Saudi sample, a number of points can be drawn: First, Mosher (1966) has identified sex guilt as a distinct area of guilt in the Western culture whereas he eliminated the religion category on the basis of item analysis of his test. This was not the case in the present study since religious-related guilt was identified as a main aspect of guilt-proneness in the Saudi culture. Indeed, the dominant belief which refers to guilt as a central concept to Western culture (e.g., Ohly, 1992; Richardson, 1969), would indicate that assessment of the guilt-phenomena in the Western culture would have to consider the religious context. However, in the case of Mosher model of guilt-proneness, the reason for not considering religious context, may rest within the fact that sexual-related behaviour, in Western societies, is not necessarily judged in terms of the extent to which it violates a religious code. Rather, it may be thought of as a transgression of social or moral principles (see, Evans, Jessup &, Hearn, 1975). At least a proportion of regular church-goers in Western society, sexual morality is still intimately bound up with religion, but there is no doubt that this is far more widely true of Saudi society than of Western societies in general.

In the Saudi Islamic society, all forms of sexual behaviour are explicitly bound up within Islamic teachings. Sexual related misdeeds are judged as being violation

of religious codes. For example, Islamic teachings do not approve man-woman relationships outside marriage. Such a relation is seen by Islam as a form of adultery (Al-Khuli, 1982). The Prophet Mohammed said :

> "The adultery of the legs is walking (towards unlawful woman with bad intention) and the adultery of the hands is touching and patting (unlawful woman) and the adultery of eyes is casting passionate glances (at a woman)." (documented by Doi, 1984, p. 237).

Furthermore, in most western cultures homosexuality has, to a large extent, become a controversial issue. As stated by Feldman (1977 p. 182, 1993, p. 4), homosexual relations between consenting adults in private is no longer an offence in most Western countries. "Suicide, and attempted suicide, homosexual behaviour between consenting adults, adultery and prostitution have all been wholly or partially removed from the criminal law, as have gambling ... and abortion" (Feldman, 1993, p. 4).

In contrast, homosexuality in the Saudi Islamic culture is a sinful act. The Prophet said" If a man commits an act of sex with a man, they both are adulterers, and if a woman commits such acts with a woman, then both of them are adulteresses" (documented by Doi, 1984, p. 242). While the Saudi Islamic culture condemns pre-marriage sexual relationships, such behaviour does not appear to contradict many standards of contemporary Western (or Western-oriented) cultures.

In the light of the above discussion, it would seem reasonable to conclude that the area of sex-guilt which found by Mosher in the American culture, can be subsumed, in Saudi Arabia, under religious-related guilt. Second, in the

present study, morality-conscience guilt was not recognised as a distinct aspect of guilt as in the Western culture. The reason seems to be that moral standards, in the Islamic oriented culture, overlap to great extent with that of religion (e.g., Alkhuli, 1982, pp. 19, 20; Ali, 1975, p. 185). The items representing the Mosher morality-conscience guilt scale are dealing with issues such as guilt feelings over stealing, cheating and, lying. Such issues are seen in Islam as direct violation of religious norms rather than judged on merely 'moral' grounds.

Omar (1981) explains that:

> "Allah protected possessions by prohibiting stealing, deception, gambling, bribery and all illicit gains." (Omar, 1981 p. 46).

With regard to involvement in forms of sexual relationships outside marriage, the Prophet Mohammed said:

> "When an adulterer commits illegal sexual intercourse then he is not a believer at the time he is doing it; and when somebody steals, then he is not a believer at the time he is stealing" (documented by Doi, 1984, p. 256).

Finally, hostility-guilt (HG) also was not recognised as a separate aspect of guilt in the Saudi sample. The items comprises this scale, in Mosher's work, represent specific guilt-inducing situations. These situations relate to guilt over hostile behaviour. However, most of these situations can be interpreted, in a Saudi context, in terms of either religious-related guilt or social-related guilt.

The results related to the evaluation of the reliability of the Guilt-Proneness instrument and its subscales indicated that both test-retest and internal consistency methods, has demonstrated a satisfactory level of reliability for the GPS and its three subscales.

One aspect of the construct validation of a measure involves the examination of relationships which should not exist under conditions of adequate test construction (see, e.g., Cohen, Swerdilk, & Smith, 1992; Kaplan & Saccuzzo, 1989; Kerlinger, 1986). Theoretical discussions of guilt-proneness do not predict a relationship with intelligence. The total GPS measure of guilt-proneness has almost zero correlation with the intelligence as measured by the Youth Intelligence Test (YIT; Zahran, 1976). The extremely small correlations found between intelligence measure YIT and the GPS total and subscales (YIT has correlation of 0.018 with RG, -0.15 with SG, and 0.05 with SOG), are well in accordance with the predicted relationship between guilt and intelligence and hence the discriminant validity of the GPS is evident.

Another assessment of the discriminant validity of the GPS was conducted by examining the relationship of guilt to social desirability. Edwards (1957) viewed social desirability as a characteristic of test items. It is certainly not desirable to construct a test whose items reflect a large proportion variance attributable to social desirability rather than to the construct the test seeks to measure. Therefore the absence of a relationship between the GPS and the Arabic version of the Marlowe-Crowne Social Desirability Scale provides further support for the discriminant validity of the GPS. This findings are also in line with studies that indicate a non-significant relationship between guilt-proneness, as measured in

Western cultures, by the MGS, and measures of social desirability (e.g., Dubeck, Schuck & Cymbalisty, 1971; Mosher, 1966, 1968).

Another way of investigating the construct validity of a measure of a construct, may be evaluating its convergent validity (Cohen, Swerdilk, & Smith, 1992 [2nd ed.]; Cronbach, 1990; Kaplan & Saccuzzo, 1989; Kerlinger, 1986). This aspect of validity involves demonstrating a relationship between a measure of a construct and other measures that are believed to measure the same construct. The GPS measure of guilt-proneness was found to be related significantly to three independent guilt scales. It correlated significantly and positively with the Mosher Hostility Guilt scale ($r = 0.58$, $p = < 0.001$), with the Mosher Morality Conscience Guilt scale ($r = 0.43$, $p = <0.001$), and with the Perceived Guilt Index ($r = 0.29$, $p = < 0.01$). The observed relationships of the GPS, especially to Mosher's two guilt scales, do in fact provide positive evidence of the convergent validity of the GPS as a measure of guilt-proneness.

The absence of a significant relationship between the GPS and the Buss-Durkee Guilt subscale (BDG) may be attributable to the fact that the BDG was designed to probe guilt state rather than disposition to guilt. The absence of a relationship between the GPS and the BDG may also reflect that the test items forming the BDG are, arguably, culturally specific. It is not surprising to observe correlation coefficients ranging from moderate to weak in strength (rather than strong correlations), between the GPS total scores and the other four Western guilt measures which were translated into Arabic for use in the validation study. Because the GPS has been especially designed to be a measure of guilt-proneness appropriate for individuals of the Saudi culture. It is certainly not unreasonable to attribute the nature of differences (as reflected in the size of observed

correlations) between the GPS and the four guilt measures (HG, MG, PGI and BDG), partly, to cultural variations.

The construct validity of a test may also be evaluated by means examining the relationship of scores in the test in question to scores on tests that measure constructs which have theoretical relevance to the test under construction (see, e.g., Cohen, Swerdilk, & Smith, 1992 [2nd edition]; Nunnally, 1970, 1994). Theoretical consideration of guilt predicts a positive association between excessive sense of guilt (or the affective component of guilt) and depression (Catanzaro & Mearns, 1990; Dominian, 1990, p. 46; El-Islam, 1968; Friedman, 1973; Leckman *et al.,* 1984). In addition, a negative association has often been predicted between guilt and self-esteem (e.g., Epstein, 1972; Fehr & Stamps, 1979a, 1979b; Lindsay-Hartz, 1980).

Since it has been commonly reported that only excessive guilt feelings tend to be associated with depression (e.g., Catanzaro & Mearns, 1990; El-Islam, 1968), the observed low to moderate size of the correlations between the Arabic version of the Depression Scale of the MMPI and the GPS total score and subscale scores is expected (see, Table 17). It is important to note, therefore, that the GPS has been designed to measure guilt-proneness as personality *predisposition*, rather than give a direct measure of pathological guilt feelings. Thus, the moderate-to-low correlations observed between depression and GPS scores, are congruent with the range of correlation frequently reported in the literature, between measures of guilt proneness and depression (e.g., Catanzaro & Mearns, 1990; Persons, 1970b). While the correlations of the MMPI depression with the GPS score are, predictably, no more than "moderate", in Cohen's (1988) terms, they

are all statistically significant (two of them very highly significant) and they do contribute to the construct validity of the GPS.

The negative relationship observed between the GPS and self-esteem as measured by the Arabic version of the Coopersmith Self-Esteem Scale is well in keeping with the hypothesised relationship between guilt-proneness and self-esteem. This suggests that increase in guilt level should be accompanied by a decrease in the degree to which the individual values himself. Awareness of transgression should bring about self reproach, regret, negative evaluation of the self, and a consequent diminution in the level of self-esteem.

Agendo (1980), however, argues that individuals experiencing levels of guilt which are no more than moderate are unlikely to generalise feelings concerning the appropriateness of their behaviour to a wider aspects of their self concept. On this view, we would only expect individuals experiencing very high levels of guilt to show strong diminution of self-esteem, comparable with grief or loss.

It is also argued by Lewis (1979) and by Potter-Efron (1989) that the experience of guilt involves less self-consciousness and self-imagining than does the experience of shame. Therefore the obtained size of correlation coefficients between the GPS, its subscales, and the Arabic version of the Coopersmith Self-Esteem Inventory (Table 17) are in agreement with the theoretical considerations relevant to the relationship of self-esteem to guilt-proneness, and do support the construct validity of the GPS.

The use of partial correlation has confirmed that the relationship between guilt and self-esteem was not due to possible elevation in the subject's depression

scores. Similarly, the relationship between guilt and depression was not affected by the subject's level of self-esteem.

To investigate the validity of the GPS through independent method, in a sample relevant to the proposed clinical use of the instrument, further the GPS measure of guilt was correlated with a diagnostic interview (GDI) assessment of guilt. The GPS is strongly related to the diagnostic interview measure of guilt (*r*'s ranged from 0.789, $p = < 0.001$, to 0.612, $p = < 0.001$). This degree of association provides strong evidence for the validity of the GPS in a clinical setting.

While the four translated, Western guilt scales do correlate significantly with the Guilt Diagnostic Interview (GDI), the sizes of these correlations are substantially lower than those exists between the GDI and the GPS scales. This confirms that the GPS is more appropriate for use with Saudi subjects than the other four guilt scales (BDG, HG, MG, and PGI) which all originated in Western cultures. In comparing the size of correlation coefficients between the GDI and the four Western guilt scales, it is also apparent that both Mosher guilt scales correlated with the GDI better than did the BDG or PGI, so that, of the Western translated scales, the Mosher scales seem to fare best.

Further investigation of the validity of the GPS has examined the relationship of guilt-proneness to reinforcement value as assessed by Taffel's verbal conditioning task (Taffel, 1955) - an experimental method which has been utilised in a variety of research applications. Mosher (1966, 1968) employed this verbal conditioning task (VCT) in investigating the effect of guilt in the reinforcement of responses, where he found a significant effect for guilt-proneness on the level of conditioning of particular of verbal content (i.e., hostile and moral contents).

The results of the verbal conditioning experiment conducted in the present study as derived by analysis of variance have indicated that high guilt subjects showed significantly higher mean scores than low guilt subjects. The analysis of the interaction of groups (high vs. low guilt Ss) by trials (block of 10 conditioning trials) further confirmed predictions that the high guilt group would emit religious-related verbs at a significantly higher frequency than the low guilt group.

As noted by Crowne and Strickland (1961), the operant verbal conditioning may, in some instances, be influenced by two interfering factors. The first factor concerns social desirability, which may accompany the particular type of content being reinforced. The second factor relates to the speculation that the rate of conditioning of verbal content could be influenced by high awareness in part of the subject of what is going on in the experiment. These two factors have been taken into consideration and have been evaluated for their possible influence on the observed results in the present validation experiment.

An analysis of variance indicated that the effect of awareness was not, in this case, significant. In addition, no significant relationship was found between scores on the Arabic version of the Marlowe-Crowne Social Desirability Scale and the rate of conditioning of religious-related verbs. Thus, the role of guilt-proneness in inhibiting the rate of of religious-related verbs is evident at least with no direct influence by social desirability or high awareness factors.

To examine of the goodness-of-fit of the three factor model of guilt-proneness which emerged from exploratory factor analysis of responses from students in

initial development of the GPS, a confirmatory factor analytic study was proposed using new sample groups including non-student subjects.

To conduct such a study, a second field trip to Saudi Arabia was arranged for gathering data. The data which were gathered from two samples: 227 non-student participants and 206 university students, were analysed using a Structural Equation Modelling through the medium of the EQS program (Bentler, 1993).

The large number of individual GPS items presented some technical difficulties of both practical nature and in relation to power. Since the use of parcel factoring (see, e.g., Cattell, 1973; Comrey, 1961, 1970) has been shown to provide factor solutions which are consistent with those derived by single item factoring, the GPS items were transformed into nine factor homogenous variables using Comrey FHIDs parcelling method (Comrey, 1961, 1970).

Confirmatory factor analysis, based on the use of Structural Equation Modelling on the GPS scores for a total of 227 non-student individuals, demonstrated an extremely good fit to the data. This was evidenced by both the non-significant value of chi-squared ($\chi^2 = 26.482$, $df = 22$, $p = 0.231$) and the high value of the other goodness of fit indices which EQS provides.

Moreover, inspection of the measurement equations as well as their associated test statistics, and standardised solution indicate that the GPS three-factor model was clearly replicated. Therefore, the prediction, as embodied in the EQS input program, that particular GPS variables would be

indicators of three particular latent variables (GPS three factors), was confirmed.

These findings are of special interest since they demonstrate that the GPS three-factor model was consistent with that previously found during initial development of the GPS through an exploratory factor analysis. More importantly, these findings show that this model still provided a good-fit even when data from non-student participants were utilised.

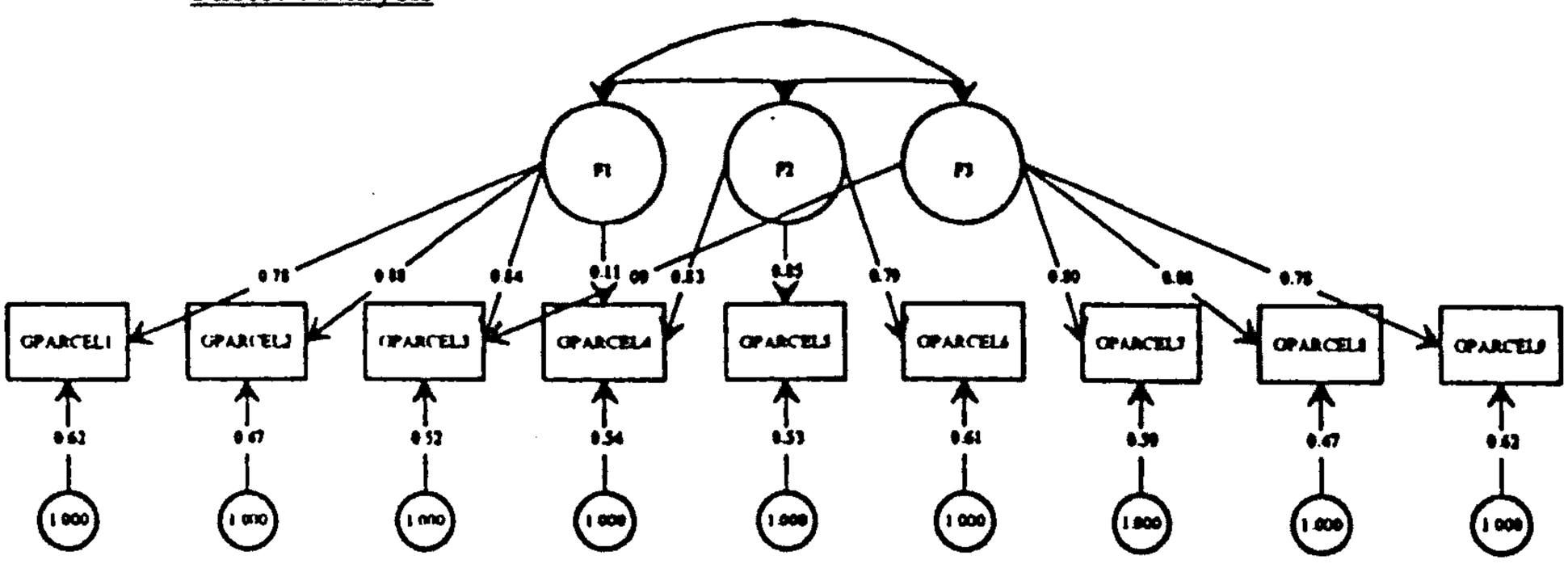
The second analysis involved structural equation evaluation of guilt-proneness model on the data of 206 university students. An EQS input program specifying the predicted GPS three-factor model was set up.

The results (displayed in Table 24), demonstrate a non-significant chi-squared (p = 0.0651). Although the resulting probability value appears to indicate the model had a slightly weaker fit than that obtained for the first sample, this value is still below the 0.05 level of significance.

In order to test for whether the covariance matrices of the two samples could be represented by one single-population matrix, the structural equation-based method explained in Dunn, Everitt, and Pickles (1993) was used.

The Chi-squared goodness-of-fit test demonstrated that the differences between the correlation matrices for the student and non-student samples did not reach significance ($\chi^2 = 60.819$, $df = 45$ $p = .05787$). In the light of this result, the two samples were pooled to give a single matrix ($N = 433$). A third EQS input program, in which the predicted GPS three-factor model was specified, was run. The observed results (see, Tables: 23 to 27 & Figure 36) lend strong support for the goodness-of-fit of the three factor model corresponding to the three scales of the GPS. This was evidenced by both the value of Chi-squared statistics ($\chi^2 = 36.432$, $df = 25$ $p = .0653$) and the other indices of goodness-of-fit: NFI, NNFI, CFI.

Figure 35 Path Diagram Representing the GPS 3-Factor Model as Estimated by EQS Confirmatory Factor Analysis



The goodness-of-fit of this model was further checked using an independent structure equation program: AMOS (Arbuckle, 1994) the results of which were highly consistent with those obtained by EQS. The chi square that is based on AMOS analysis was 33.245, $df = 23$ $p = 0.077$.

To conclude, the series of analyses conducted in Stage One of the present research, to establish the reliability, and the criterion-related, discriminant, convergent, and construct validity of the Guilt-Proneness Scales (GPS), as

developed in the present work, have demonstrated a strong support for the psychometric appropriateness of the scales.

The employment of confirmatory factor analysis based on structural equation modelling, has lent further support to the internal properties of the GPS. This evidence, together with other set of evidence which have been established in relation to GPS validation, demonstrate the appropriateness of the GPS as a psychometric instrument for measuring guilt-proneness.

In the second stage of the present research project, the GPS measure of guilt-proneness was used for testing the main hypotheses generated in the present study concerning individual differences in guilt-proneness in Saudi male juvenile illicit drug takers, non-drug-user criminal offenders and a group of normal controls. To examine the differences between these groups, a comparative study has been designed.

Preliminary steps in the statistical treatment of the data began with an evaluation the level of homogeneity in the guilt-proneness scores among all subject groups. This was done by means of Bartlett-Box *F* test. The results derived by the Bartlett-Box *F* demonstrated a satisfactory level of homogeneity among the four groups tested on the three guilt scales: religious-related guilt, self-oriented guilt, and social-related guilt.

An effort was made to establish control for the possible effects of certain important demographic variables. This involved comparing the means of the variables: IQ, age, educational level, and socioeconomic status for the four subject groups.

Examination of these demographic variables (Table 29 to Table 34), revealed no significant differences between the four groups. Thus we can regard these having been controlled for in the subsequent analyses.

To test *Hypotheses* 1-6, the following statistical techniques were used: one-way ANOVA, planned comparisons and unplanned comparisons, *t*-tests and Pearson correlation.

The results demonstrate strong support for the first hypothesis, which states that: normal subjects would manifest greater amount of religious-related guilt than the voluntarily admitted drug abusers, convicted drug abusers, or offenders. This was evidenced by the obtained F value ($F = 93.62$, $p = < 0.001$). Although this result demonstrates that there were significant differences on the RG between the four groups, it did not specify the nature and magnitude of the variations between the four groups. Therefore it was necessary to conduct a planned comparisons for locating the variations among the four groups.

The results as shown in Figure 12 revealed that the normal subjects had the highest level of guilt proneness, the voluntary drug abusers had the next highest level of RG guilt proneness. Both these groups differed significantly from each other, and from the convicted drug abuser and offender groups, who had the lowest levels of guilt-proneness and did not differ from each other significantly. This confirms the theoretical prediction that normal people should feel more guilt than deviant people do when they transgress acceptable rules of behaviour. This tendency in normal individuals, and its lower level in the deviant groups, does provide a clear indication of the inhibitory function of guilt-proneness, as suggested by Mosher (1965, 1966, 1968, 1980) and other investigators who

argue for a positive relationship between guilt-proneness and resistance to temptation (e.g., Grinder & McMichael, 1972).

Normal individuals, in Saudi Arabia, are expected to uphold higher levels of conformity to religious and moral codes than those indulge in either taking alcohol or any illegal substance, or who commit crimes, since such acts in themselves represent clear violations of Islamic values and prohibitions (e.g., Holy Quran, 3: 90, 91).

It seems that, even when the offender or the intoxicant drug taker maintains religious faith, he/she is, in most cases, unable to fulfil and perform the various duties that God has commands him to do. The Holy Quran expresses it clearly that man can not conduct himself as a true worshiper of God if he becomes under the influence of an intoxicant substance (e.g., Holy Quran, 2: 43).

Accordingly, it is clear that individuals who drink alcohol or use any intoxicant substance, would be far less able to fulfil worshipping duties than their abstinent counterparts. The drug dependent person is often described as an individual who is controlled by his habit (Al-Sabagh, 1994, p. 213; Haffar, 1994, p. 143). Thus, expectancy for an internal negative reaction is more likely to be reinforced in the majority of normal persons.

The fact that voluntarily-admitted drug takers showed higher religious-related guilt (RG) scores than both the convicted drug users and the criminal offenders shows that when 'normal' individuals get involved in illicit drug taking (whether as a result of external or internal factors), their guilt-proneness can still be active; and sooner or later, guilt-proneness is likely to activate a strong wish and

call for urgent action for removing the source of the negative, painful reaction elicited by guilt over their involvement in non-medical drugs.

As Abramson, Mosher, L. Abramson, and Woychowski (1977), and Potter-Efron (1988, 1989) suggest, individuals with predisposition to guilt feelings tend to adopt strategies for dealing with their transgressions. These include a wide variety of restitutional behaviours which, mainly, serve to make possible reparation to self-image and to diminishing the painful guilt reaction. Such processes lead the guilt-prone individual to make amends, repent, seek forgiveness, and attempt to undo (or prevent the continuity of) the wrongdoing. For the voluntarily-admitted drug abusers, this theorising does, in part, seem to explain their motive for seeking treatment, of their free will, at the AAH.

The finding that both the convicted illicit drug users and criminal offenders had significantly lower scores on self-oriented guilt (SG) than the voluntary-admitted illicit drug group, suggests important individual differences in the strength of guilt-proneness among the two illicit-drug taker groups, and the criminal offenders.

Another important point revealed by the analysis, was that illicit drug patients who have been brought by the police to the AAH for treatment, and who were convicted of taking illicit drugs, did not differ significantly from the criminal offender group on religious-related guilt. These results are in agreement with Schill and Althoff's (1975) study on an American sample of persistent users of illicit drugs ($N = 121$), where they found persistent users of marijuana, hallucinogens, stimulants, depressants, and opiates were characterised by low guilt profiles (as measured by the Mosher Guilt Scales).

This suggests that it is possible to infer that individuals with low guilt-proneness are more likely to be responsive to situations leading to the committing of a criminal act or involvement in illicit drug taking. The convicted illicit drug taker group have been already associated with some forms of offending behaviour (which had lead to their convictions) such as stealing (to obtain drugs), fighting, domestic violence, use of drugs in public, reckless driving, causing serious car accidents, and the like. Feldman (1993) and Kaplan (1983) argue that persistent illicit drug user are likely to begin offending before becoming addicted and that their addiction will eventually lead to increase in their offending. This pattern of association may explain why the convicted drug abuser and the offender were more similar than were different.

The current results suggest that the voluntary-admitted illicit drug users were better at recognising how much they acted against their personal values. It is often reported that there is a relative consistency in different aspects of guilt-proneness across different subject groups (Abramson, *et al.*, 1977; Persons, 1970a; Mosher, 1966, 1967). It is, thus, reasonable to expect that the voluntary-admitted illicit drug users would express more concern over the violation of their personally set values than either convicted illicit drug users or criminal offenders.

The voluntary-admitted illicit drug users were also higher than either convicted illicit drug users or criminal offenders. This suggests that the voluntary-admitted illicit drug users tend also to be consistent in their level of social-related guilt (SOG). The voluntary-admitted illicit drug users were clearly differentiated from the convicted illicit drug users and criminal offenders on social-related guilt (SOG). This demonstrates that the voluntary-admitted illicit drug users tend to

condemn themselves over the harm or damage they had done to others. Guilt-proneness for the voluntary-admitted illicit drug users tends to be elevated by experiencing a negative self-reaction associated with the social consequences which occur as a direct result of their illicit drug use. Such consequences, as observed in a number of illicit-drug abusers during the Guilt Diagnostic Interview (GDI), include social-related harm, of various forms: physical harm (which is often occurred in connection with obtaining drugs, or under the influence of drugs), incurring financial loss for the parents or closest relatives, and inducing psychological harm (e.g., distress and shame) in parents or relatives.

In the case of convicted illicit drug users or criminal offenders, it is reasonable to expect that they manifest lower levels of religious-related guilt (RG), self-oriented guilt (SG), and social-related guilt (SOG) than voluntary-admitted illicit drug users. The criminal offenders may be seen as both illicit drug takers and as criminal offenders, e.g., they were caught using drugs or alcohol, caught at car accident, or reported by member of their family or relatives. Also because of their unwillingness to give up the use of drugs. They may also have an exaggerated sense of hopelessness and therefore may be less concerned about personal values. They may have been unconcerned about being expelled from school, or dismissed from work. The finding that voluntary-admitted illicit drug users manifested significantly higher guilt proneness than convicted illicit drug users or criminal offenders is interesting. This perhaps provides an explanation of the motive behind their action to seek, of their own free will, ways out of drug dependence. As Abramson, Mosher, L. Abramson, and Woychowski (1977), and Potter-Efron (1988, 1989) Baumeister, Stillwell, and Heatherton (1994) point

out, individuals predisposed to guilt are likely to make amends, repent, or try to undo the wrongdoing in order to remove of the effect of guilt reaction and restore their damaged self-image. For the voluntarily admitted drug abusers, this motive is strongly evident.

Regarding the investigation of the relationship of guilt-proneness to psychopathy, the present results are, generally, in agreement with dominant theories and research findings relating to the psychopath's inability to experience guilt feelings (e.g., Bender, 1947; Cleckley, 1964; Craft, 1965; Fotheringham, 1957; Hare, 1978, 1980; Farrington, 1994; Satterfield, 1978; Stanger, 1974; Yochelson, Samenow & Aronson; 1976; Sckuck, Dubeck, Cymbalisty & Green, 1972; Ziskin, 1978). The observed relationships between psychopathy and the three aspects of guilt: religious-related guilt, self-oriented guilt, and social-related guilt, suggest that the drug abuser or offender who tends to have psychopathic personality also tends to have low susceptibility to feeling guilty over the violation of religious values or duties. This negative correlation was expected because the individual's internalized religious (Islamic) values are incompatible with types of behaviour that characterise the psychopath. According to Mosher, guilt can be evoked not only by immediate violation of morally or socially unacceptable conduct, but also by anticipating the violation of such acts (Mosher, 1966, 1968). Thus it would be reasonable to assume that individuals who have a high susceptibility to feeling religious-related guilt, and who have a low tendency to psychopathic personality, are more likely to be able to anticipate the consequences of forbidden acts (deviant or criminal behaviour). Psychopaths are often characterised by a lack of empathy and inability to form warm, emotional relationships with others (e.g., Cleckley, 1964; Farrington,

1994; Stanger, 1974). Thus, they commit crimes without remorse or anxiety (Farrington, 1994, Hare, 1978, 1980), and fail to accept responsibility for these actions (Spielberger, Kling & O'Hagan, 1978). It is, therefore, reasonable to expect that an increase in the tendency towards psychopathy would be accompanied by a decrease in the ability to experience social-related guilt. Similarly, psychopaths are generally described as risk-takers, excitement seekers, and as having a parasitic lifestyle (e.g., Hare, 1978, 1980). Psychopathic individuals are also characterised by impulsivity and by failure to honour financial and family commitments, by having unusually weak self control, performing poorly in their jobs, by failure to support themselves and their dependents without outside aid, and by failure to follow any life plan (Cleckley, 1964; Farrington, 1994; Graham, 1993; Hare, 1980). No doubt such characteristics would be incompatible with the personality of individuals who tend to have high regard for their functioning in society, and are concerned about achievement and self-fulfilment. Therefore the observed negative relationship of self-oriented guilt (SG) to psychopathy (as measured by the Arabic version of the MMPI *Pd* scale) appears to be a function of underlying theoretical relationships rather than an artefact of the GPS measure of guilt proneness.

The present results relating to guilt-proneness and psychopathic personality suggest that the reported positive relationship of psychopathy to guilt in the early studies of Kingsley (1961) and Holzberg and Hahn (1952), is very dubious. It appears that two features, at least, of their studies may have led to such findings which are too discrepant with current literature: first, in both studies guilt was not assessed by means of a direct guilt measure and as a result guilt

was not clearly defined; and second, in both studies the number of subjects was small (i.e., $N = 25$ psychopaths in Kingsley's study, and $N = 17$ psychopaths in Holzberg and Hahn's study).

According to the current findings, it is possible to infer that individuals who have high susceptibility to religious-related guilt, social-related guilt, and self-oriented guilt would be more likely to be warned by an internalized negative reaction associated with the execution of behavioural patterns which are in contradiction to learned religious, moral, and social standards of conduct; such as illicit drug taking and commission of criminal acts. In the case of individuals with high psychopathic tendency and with low susceptibility to guilt-proneness, transgression against social standards would be unlikely to activate any negative reaction. These findings are also in agreement with Stagner's (1974) suggestion that inability to experience 'impulse-control', is the focal problem of psychopathy.

With regard to the fourth hypothesis, which predicted significant differences in mean guilt-proneness scores of individuals varying in their drug preferences, the results lend substantial support to this hypothesis. The religious-related guilt scale (RG) has shown highly significant differences between the alcoholic, heroin, and multi-drug abusers ($p< 0.005$). To locate the differences between the four groups, it was necessary to employ the planned comparisons technique. Firstly, the analysis revealed that the alcohol group were significantly higher on the RG scale than both the heroin ($p = < 0.005$) and multi-drug abusers ($p = < 0.005$). In addition, the results demonstrated that the multi-drug abusers were significantly lower on the RG scale than the alcohol group ($p = < 0.025$).

Secondly, with regard to self-oriented guilt (SG), one-way analysis of variance has shown no significant overall F between the three groups of substance abusers. However, a comparison of the mean SG score between the alcohol and multi-drug abusers have demonstrated a significant difference ($F = 1.677$, $p = < 0.05$). Thirdly, one-way analysis of variance analysis revealed highly significant differences between the alcoholic, heroin, and multi-drug abusers on the Social-Related Guilt scale ($p = < 0.005$). Planned comparisons, have revealed that the alcoholic group scored significantly higher on the Social-Related Guilt scale than either the heroin or multi-drug abuse groups. Hence the fourth hypothesis was partially supported by the present results. This result strongly confirms studies conducted in the Western culture (Ungerer *et al.,* 1976; Schill & Althoff, 1975) which indicate that guilt-proneness varies with drug preferences. In the Saudi Islamic culture alcohol use has long been condemned more strongly than the relatively new type of intoxicant substance. Although all types of harmful substances are considered, in Islam, to be forbidden, wine or *Alkhamr* was especially referred to in three Quranic verses (Holy Quran, 2: 219; 4: 43; 5: 90-91). It is, therefore, quite logical to expect heroin users to manifest lower level of guilt-proneness than alcohol users. The finding that the multi-drug users manifested the lowest guilt-proneness, suggests that these group of drug abusers had no definite attitudes towards particular type of drugs. They would just keep experimenting with a wide variety of drugs that were available to them. Their low level of guilt-proneness may reflect more deterioration in their ability to experience any sign of a negative reaction over their drug abuse. Drug abusers of this type tend to show a desire for experiencing the effect of a new substance regardless of what consequences it could caused to them.

An important point that has been demonstrated is that both the Religious-Related Guilt and Social-Related Guilt scales were able to distinguish between subtypes of drug abusers: individuals varying in their drug preference. Perhaps the reason why the SG scale did not show any overall significant differences between the three drug preference groups, may be that drug abusers of all types of drugs are generally characterised by a low tendency towards self-actualisation. They are in general, less interested in playing an important role in society (Sabagh, 1994) than are normal people. However, a planned comparisons analysis demonstrated that the alcohol group did manifest higher social-related guilt-proneness than the other two groups. This suggests that the alcohol group were more bothered by perceived harm done to others than the users of other types of illicit drugs.

The results, as shown by *unplanned comparisons*, based on Scheffé multiple range test, of the individual differences in guilt-proneness between the short-term, medium-term, and long-term illicit drug users, indicate that the short-term drug users scored significantly higher ($p< 0.01$) on RG, SOG, and SG than the long-term users. But no significant differences were observed between the short-term and the medium-term on the on hand, or between the medium-term users and the long-term users on the other. The overall trend is, however, in a consistent direction, with the medium-term users scoring at levels between the short-term and the long-term users.

It appears that, for those newly involved in illicit drug taking, guilt would be more readily triggered by the awareness of consequences associated with their violation of a tabooed behaviour (taking the illicit drugs). It is also possible that because of the low expectancy for internal negative reaction which characterises

the low guilt-prone subjects, they would continue to experiment with illicit drugs with far less concern on their guilt feelings than the high guilt-prone subjects.

To allow for testing the fifth hypothesis, the Offenders were grouped into two categories according to whether they were first-time offenders (Ss = 50) or recidivists (Ss = 21). A *t*-test was utilised to examine the differences between the two groups. The analysis revealed substantial differences and a highly significant values of *t* between the two groups on all three guilt-proneness scales, RG ($p = < 0.001$), SG ($p = < 0.005$), and SOG ($p = < 0.001$). This confirmed the prediction that level of guilt proneness would differentiate between first-time and recidivists. For the recidivists, it was expected that they would display a lower tendency to experience guilt than those who were first-time offenders. In fact, a number of psychologists who focus on the study of criminal behaviour have viewed lack of guilt feelings and recidivism as important components of psychopathic personality (see, e.g., Cleckley, 5th ed., 1976; Craft, 1965; Buss, 1966; Farrington, 1994; Hare, 1980, 1985; Hare & Cox, 1978; McCord & McCord, 1965; Yochelson, Samenow, and Aronson; 1976).

Persons (1970a) demonstrated a significant negative relationship between number of crimes committed by the individual and the scores on the Mosher Guilt Scales. Mosher and Mosher (1967) found the MGS measure of guilt-proneness to differentiate significantly between first-time offenders and recidivists. The present findings provide support for those two studies (Mosher & Mosher, 1967; Persons, 1970a) conducted with American offenders, and also confirm the hypothesised differences between the first-time and persistent offenders in the Saudi offender population.

These findings thus serve both to confirm and extend the findings of Mosher and Persons, and also to demonstrate the ability of the GPS as a measure of guilt-proneness to differentiate between subtypes of Saudi offenders.

Hypothesis Six posited that offenders who had committed violent crimes would display lower level of guilt-proneness than those who had involved in non-violent crimes. This hypothesis was also supported. A *t*-test was utilised to examine the differences between the two groups. The analysis uncovered substantial difference in guilt-proneness between the two groups on the RG scale ($p = < 0.05$), and the SOG scale ($p = < 0.005$); but no statistically significant difference was found between the two groups on the SG scale. The findings that both the RG and SOG scales were able to discriminate between offenders who had committed violent crimes and those who had committed non-violent crimes, is generally keeping with the findings of a number of studies that have been conducted in the West (see, Gudjonsson, 1984; Mosher, 1967; Persons, 1970a).

While the RG and SOG scales were found to differentiate specific overt behaviour patterns in offenders, the Self-Oriented Guilt scale (SG) seems to be less sensitive to the offender's tendency to indulge in a particular type of crime. Perhaps the reason for the inability of the SG scale to discriminate between these subtypes: hostile *vs.* non-hostile offenders, could be attributed to the fact that, within Saudi culture, hostile behaviour is not generally perceived so much as a violation of personal values, but rather as a violation against internalised religious and social values.

The comparative study presented in Chapter 12 and 13 has focused on examining individual differences in guilt-proneness, as measured by the GPS,

between voluntary admitted drug abuse patients, convicted drug abuse patients and a group of offenders. The results have demonstrated that the GPS was able to distinguish between subgroups of illicit drug takers and non-drug taking offenders. The hypothesised effect of the guilt-proneness on the individual's involvement in illicit drug taking or offending behaviour, has thus been demonstrated.

To examine the extent to which the GPS would predict future involvement in illicit drug taking or criminal offending, a 33-month follow-up study was conducted. Generally, the results of this follow-up study have provided strong support for the stability of susceptibility to guilt in both illicit drug takers and offenders. Classifying drug-abuse patients into two groups: re-admitted and recovered drug patients, a series of 2 x 2 analysis of variance were conducted to examine the differences in scoring between the times of the first and second testing on the three GPS scales, administered twice to the two groups with a 33 month interval. Two-way analysis of variance revealed highly significant differences (p ranged between $p = < 0.004$ to $p = < 0.0001$) between the re-admitted and recovered groups on all three guilt-proneness subscales. This shows a fairly strong association between level of susceptibility to guilt and recovery *versus* relapse. Furthermore, these results do explain, in part, how low susceptibility to guilt may participate in the development of the phenomena of relapse where the recovered drug patient resumes the intake of illicit drug after a period of complete abstinence.

Further evidence has emerged from an examination of the stability of GPS total scores and the RG, SG and SOG subscales over the 33 month follow-up period for each group separately. Pearson correlation coefficients demonstrated a

strong relationship between score on each guilt-proneness subscale between first and second testings (Table 58). This pattern of association indicates that the GPS scores of both the re-admitted and recovered drug patients were, to a large extent, stable over time. Accordingly, it can be concluded that these findings do support the theoretical notions relating to the inhibitory function of guilt-proneness - which has been found to mediate involvement in illicit drug taking or criminal offending behaviour (Czunder & Mueller, 1987; Fehr, 1988; Mosher, 1967; Persons, 1970; Schill & Althoff, 1975; Ungerer *et al.*, 1976).

These findings also support the theoretical position that individuals with low guilt- proneness are vulnerable to involvement in deviant behaviour such as taking illicit drugs or committing crimes. Since low-guilt proneness has been found to relate to psychopathy (e.g., Cleckley, 5th ed. 1976; Craft, 1965; Buss, 1966; Farrington, 1994; Hare, 1980, 1985; Hare & Cox, 1978; McCord & McCord, 1965; Yochelson, Samenow & Aronson, 1974), it is no surprise from the present findings to observe a link between relapse (readmission) and having low scores on the three GPS scales. In addition, this indicates that the pattern of relationship between guilt-proneness and psychopathy has been successfully replicated, for the first time, in an Arabian sample.

In the offender group, Pearson correlation coefficient has demonstrated a strong positive association ($p = < 0.01$) between the GPS scores of the Recidivists, taken at the first and the second times of testing, with a 33 month interval. This indicates a remarkable stability in level of guilt-proneness for the recidivist group.

Generally, across all subscales of the Guilt-Proneness instrument, the results of the follow-up study provide support for the positive role of guilt-proneness in inhibiting involvement in illicit drug taking and offending behaviour in the Saudi juveniles. Hence evidence of the predictability of guilt-proneness, as measured by the GPS scales, appears to be very promising. Moreover, the present findings demonstrate the effectiveness of the GPS as a measure of guilt-proneness and a predictor the occurrence of particular classes of deviant behaviour.

The final stage in the present research was aimed at providing extended individual case examples of use of the GPS. I have employed a personal construct theory approach through the use of the repertory grid technique. Individual GPS profiles, as well as repertory grid data, were obtained for five young drug abusers who were in-patients at the al-Amal Hospital in Riyadh and one incarcerated young criminal offender at the Social Observation Centre in Riyadh. Based on the use of cluster analysis, principal components analyses, and construct intercorrelation, analyses of individual grids of each of the six cases demonstrated a considerable agreement between their GPS profiles and repertory grid indicators of each individual's level of willingness to giving up the use of illicit drugs or involvement in crimes. These findings demonstrate, in a new way, the likely value of guilt-proneness in predicting the individual's prognostic potentiality, and extend support for the GPS as a powerful diagnostic tool. Its use in conjunction with the repertory grid technique seems very promising and encourages further research.

The main aim of the study reported in Chapter *Fifteen* was to investigate the possible interaction of guilt-proneness and other aspects of the individual's construct system in inhibiting illicit drug taking and involvement in crimes. The hypothesis proposed was that the subject's guilt-proneness, as measured by the GPS, would be reflected in the strength of his attitudes towards the use of illicit drugs or involvement in anti-social behaviour.

The findings of this study as emerged from cluster analysis, construct intercorrelation and principal components analysis lend strong support to the hypothesis of a negative association between susceptibility to guilt and positive attitudes towards the use of drugs and involvement in crime. The results derived from the repertory grid analysis for each individual case are discussed below.

Having demonstrated the psychometric appropriateness of the GPS as a suitable tool for measuring guilt proneness in Saudi juvenile drug abusers and offenders, and more importantly in predicting the occurrence of behavioural patterns pertaining to relapse, in the use of illicit drugs and of recidivism, in relation to criminal offending, it was the intention, in the present research project, to provide an extended evaluation of the clinical use of the GPS through examples of a single-case study of drug abusers and offenders.

Classifying Ss into high, medium, and low guilt, as measured by the GPS, the three different statistical analyses of the grid data of each clinical case demonstrate that the GPS is sensitive to probing the illicit drug taker or offender's level of willingness to disassociate himself from his current problematic behavioural patterns (i.e., illicit drug use or involvement in crimes).

For Case One (Mr. NA), there was a consistent tendency for this patient to construe drug experience and drug-related role figures positively. He showed, through the grid, that he still maintains positive relationships with the illicit drug community where he shares the use and supply of drugs. Moreover, the analysis of his grid detected a close similarity between his past self, current self, and ideal self. This pattern of relationships (or "self/ideal-self distance") reflects what is termed by Norris and Makhlouf-Norris (1977) as "self-convergence". According to Norris and Makhlouf-Norris, if such a pattern of relationships between the current and ideal self occurs, the subject is unlikely to be willing to consider any change in himself. In the case of Mr. NA, this seems to be so.

It is apparent that the strength of his willingness to consider abandoning the use of illicit drugs, is in proportion to the level of his general tendency to feel guilty.

The analysis of Case Two (Mr. SM) has revealed a strong tendency for Mr. SM to construe drug experience negatively. The analysis has also probed a strong willingness on Mr. SM's part to consider abandoning illicit drug use. According to the cluster analysis, there are no similarities between his ideal self and drug-related role figures (the construct: *like I would like to be,* was given a 0 rating on those role figures). Another interesting point is that this patient construed his uncle, who was the closest relative to him and who first introduced him to the use of alcohol, as the most disliked person and the person most dissimilar in character to his ideal self.

For Case Three (Mr. AS), the analysis of this patient's grid shows moderate attitudes towards the use of illicit drugs. The cluster analysis as well as the

principal components analysis reveal that while this patient has begun to construe negatively some people in the illicit drug community who were personally known to him, he still expresses some positive association and resemblance to some of the members of this community. The pattern of construct-element interaction which emerged in the analysis of his grid may be interpreted as a splitting mechanism (as discussed by Ryle, 1975) within the construct system of Mr. AS: a pattern which suggests less commitment on the part of Mr. AS to consider giving up the use of illicit drugs. The significant positive association between the past self, the current self and the ideal self (correlation ranged from $r = 0.64$ to $r = 0.97$) as revealed by construct interrelation (Table 66), indicates that there is a strong tendency for Mr. AS to construe his past self favourably. However, according to the observed level of association between his current self and his ideal self ($r = 0.64$), there seemed to be only a moderate tendency for Mr. AS to retain his view of himself in the drug abuse role (i.e., self on drugs).

The analyses of the data of Case Four (Mr. AH), as derived by cluster analysis, principal component and construct intercorrelation, have, generally, indicated that there was a high tendency for Mr. AH to construe the drug experience negatively. The cluster analysis has indicated a marked shift between his current self (self on drugs) and his ideal self. He perceived the drug addiction role in a very unfavourable way. His past self was associated with positive constructs such as "thoughtful", "doesn't run risks", and "lucky". He wished to redeem these positive qualities in his past and he strongly wants to be different from his current self (self on drugs). Moreover, the ideal self was construed as similar to non-drug user role figures. Mr. AH indicated that he would like to be similar to

the Non-Drug Abuser, Ex-Drug Abuser and Religious Person, Successful Person, and Close Friend. His construct intercorrelation (Table 68) shows a pattern of self-alienation (as explained in Norris, *et al.*, 1977) in Mr. AH's construct system, where the current self does not relate to the ideal self.

The results based on cluster analysis, principal component analysis and construct intercorrelation (Figures: 27, 29 and Tables: 69 and 70) indicate a general tendency for Case Five (Mr. YA) to have moderate negative attitudes towards the use of illicit drugs. Cluster analysis (Figure 28) showed that the ideal self ("Like I would like to be") was closely related to a group of positive constructs such as "respected by people vs. least respected", "decent person vs. behaves in strange way", and "people need him vs. hopeless". The ideal self for this patient was also perceived as extremely dissimilar to his current self (self on drugs). Moreover, he construed his current self as very similar, in character, to drug-abuse related people. He construed his current self as similar to the role figures: Drug Addict and Drug Dealer. However, his ideal self was contrasted to drug-related role figures such as Drug Dealer, Drug addict, and was also contrasted to the constructs "takes drugs", "drug victim", "behaves in a strange way" and "unlucky". While this ideal self is highly associated with non-drug abusing figures, the current self would appear to remain strongly identified with the illicit drug community. The significant correlation found between the ideal self and a group of constructs which are, in Mr. YA's construct system, inapplicable to drug-abuser role figures, suggests a prospect of change to a role of sobriety. However, in view of the strong association between the current self and unfavourable constructs (e.g. "takes drugs", "drug victim", "behaves in a strange way") on the one hand, and the strong link between the current self and

drug-related role figures on the other, the change process for Mr. YA would seem likely be a slow one.

The analysis of the data of Case Six (Mr. EL), based on cluster analysis (Figure 31), principal component analysis (Figure 33), and construct intercorrelation (Table 72) demonstrate a general tendency for moderate negative attitudes towards involvement in offending. Cluster analysis indicates that the current self is construed as closely related to constructs which are mostly of negative qualities such as "mixes with bad people vs. doesn't", and "unsuccessful vs. successful". This offender's ideal self was construed as extremely dissimilar to these constructs. The plot of constructs and elements on the two main components in Mr. EL's grid (Figure 33) indicate that the current self is located on the first component and is identified with the role figures: Offender, Less-Religious, and Impulsive. The past self is located on the opposite pole of this component and is identified with the Unhappy and Religious Person role figures. The Principal Components plot also indicates marked differences between the ideal self, past, and current self. He expresses, through the grid, that he would like to be similar in character to the Close Friend and the Successful Person role figures. Construct intercorrelation (Table 72) indicates a strong association (r ranged from 0.487, $p< 0.05$ to 0.828, $p< 0.001$) between unfavourable constructs and the current self, on the one hand, and the high similarity between the current self and the role figures Offender and Dishonest on the other. This suggests that, while the results reveal a high tendency for Mr. EL to be different from what he was, it is likely to take him some time before change can take place.

As indicated in the discussion of the six individual-case analyses above, there is in each a considerable agreement between GPS scores and Rep Grid indicators of the individual's level of willingness to give up the use of illicit drugs or involvement in crimes. These findings clearly demonstrate the value of guilt-proneness, as measured by the GPS, in predicting the individual's prognostic potentiality. Moreover, these findings also extend support for the Guilt-Proneness instrument as a powerful and useful diagnostic tool.

An additional step in the analyses of the six clinical cases, involved the examination of the relationship of GPS profiles for the six cases, as a group, with Current-Self to Ideal-Self distance which Norris, *et al.*, 1977 have proposed as a Rep Grid indicator for change. A significant correlation was observed. This pattern of relationship appears to be an interesting finding, in itself. It suggests that the low guilt-prone subjects tended to show relatively little intention of considering change in heir current illicit-drug use or offending role, whereas the high guilt prone subjects were more likely to consider change in his existing illicit-drug use or offending role. Although the individual case-studies based on the repertory grid technique, were meant to provide examples of the use of the GPS in a small number of clinical cases, the observed pattern of correlation across all six cases encourages further nomothetic investigation of this pattern of relationship in a larger sample of subjects.

To conclude, the present study has been concerned with the relationship of guilt-proneness to anti-social behaviour of Saudi juvenile offenders and illicit drug users. Due to the previous unavailability of an appropriate guilt-proneness

measure for the Saudi culture, the GPS has been developed and used, in this study, to investigate the role of guilt in inhibiting involvement in deviant behaviour, with particular reference to juvenile illicit drug use and offending behaviour in Saudi Arabia. The psychometric properties of the GPS measure of guilt-proneness have been examined. Regarding the GPS validation, the attempts to establish evidence of the reliability and validity in terms of criterion-related, construct, and disciminant validity of the GPS measure of guilt-proneness have been largely successful.

At therapeutic level, the use of the GPS in conjunction with the Rep Grid technique for probing the client's current attitudes and willingness for considering change in their problematic behaviour, seems largely beneficial. Indeed, not only does this provide a double check on the client's level of guilt-proneness and the behavioural patterns associated with his guilt-proneness level, but it also enables us to access the client's construing system where relevant 'causes' could be recognised and consequently appropriate strategies in the course of treatment may be implemented.

The results of the present research are also in line with the results of other studies, most of which were conducted in the West, indicating the discriminability of differences in guilt-proneness between individuals who prefer the use of particular types of non-medical drugs. The GPS also substantially differentiated between illicit drug abusers voluntarily registered for treatment ("repentants") and those illicit drug uses who had been brought for treatment by the police. The GPS further shows a clear discrimination between first-time and repeat offenders, and between those who had committed violent offences and those who had committed non-violent offences. Finally, in line with the results of

other studies conducted in Western cultures, the GPS measure of guilt-proneness does differentiate offenders with a psychopathic tendency from those offenders who do not show psychopathic tendency.

The results, reported in Chapter 15, encourages the use of the GPS in conjunction with PCT technique, as this would facilitate diagnostic process and hence lead to a better understanding of unique factors which are of 'real' relevance to the client's problem. These results also support the use of this approach in dealing with individual cases, as has been used in a number of clinical studies (e.g., Caplan, Rohde, Shaprio & Watson, 1975; Catina, Gitzinger & Hoeckh, 1992; Cay, 1970; Smail, 1972; Ryle & Breen, 1972; Winter, 1992, 1983).

The use of the **GPS** in conjunction with psychotherapeutic approaches such as that of Czunder (Czunder, 1985; Czunder & Mueller, 1987) to the correction of deviant behaviour, seems likely to be of considerable value, since Czunder's approach is based on the stimulation of guilt feelings, remorse, and personal evaluation of a sense of responsibility.

In the light of the present findings, the **GPS** measure of guilt-proneness appears to have a promising utility in the diagnosis and treatment of drug addicts and offenders in the Saudi culture. It may also serve as an impetus for further research involving the assessment of guilt-proneness in the wider Arab World.

APPENDICES

&

REFERENCES

Appendix A

GUILT-PRONENESS SCALES (GPS)

Personal Feelings Questionnaire

The statements of this questionnaire refer to various situations and personal feelings one may experience in everyday life.

Please respond to **each statement**. Indicate your degree of agreement by placing a tick "✓" over the response that best applies to you.

The numbers located to the right hand of each statement represent the degree of agreement as follows :

Strongly Agree	Moderately Agree	Agree	Moderately Disagree	Disagree	Strongly Disagree
6	5	4	3	2	1

There are no 'right' or 'wrong' answers. The information gathered from your responses to these statements will be used for scientific research only. It is essential that you respond truthfully and frankly to the statements. All information received will be treated in strict confidence.

Thank you for your cooperation

Please: Tick the number which corresponds to your degree of agreement. Tick one number for each statement.

	Statements	Strongly Disagree ①	Disagree ②	Moderately Disagree ③	Moderately Agree ④	Agree ⑤	Strongly Agree ⑥
12	I tend to criticize myself whenever I feel that I am not sufficiently cautious of risks.						
13	I have rarely had an experience in which I felt the one to blame.						
14	If I discovered that a close friends had committed some immoral acts, I would deeply regret my relationship with them.						
15	I have had experiences which has left me with feelings of guilty conscience.						
16	I sometimes feel anxious about some personal habits.						
17	I feel unhappy about myself when I realize that I have spent too much money on things that are of no benefit to me.						
18	I tend to be cautious of revealing a friend's secret.						
19	When I unintentionally break a promise I don't worry about it.						
20	I usually don't mix with people who tend to mitigate religious duties.						
21	If I was unintentionally involved in causing harm to someone, I wouldn't be bothered at all.						
22	If I am busy and forget to pray, I find it difficult to forgive myself.						

Please: Tick the number which corresponds to your degree of agreement. Tick one number for each statement.

	Statements	Strongly Disagree	Disagree	Moderately Disagree	Moderately Agree	Agree	Strongly Agree
		①	②	③	④	⑤	⑥
23	It must be very depressing for someone who is not living up to religious principles and values.						
24	I am anxious for my negligence in not increasing my knowledge of religious teachings.						
25	It is not true that turning down a friend leaves you feeling guilty.						
26	Working during prayer time, makes me feel sinful.						
27	I, sometimes, feel bad about myself for not doing more in fulfilling my religious duties.						
28	It would feel hard to me seeing someone in danger without trying to rescue them if I was able to.						
29	When I realize that I have, unduly, criticized someone, I feel ashamed of myself.						
30	If I cause any inconvenience to others I would apologize right away.						
31	I tend to regret arguing with friends.						
32	If I realized that my ideas had unintentionally misled others, I would strongly criticize myself.						
33	I regret ignoring someone's advice especially when I discover later how helpful it could have been to me.						

Please: Tick the number which corresponds to your degree of agreement. Tick one number for each statement.

	Statements	Strongly Disagree ①	Disagree ②	Moderately Disagree ③	Moderately Agree ④	Agree ⑤	Strongly Agree ⑥
34	I dislike being late for prayer.						
35	If I caused an accident, due to my carelessness, I would be very angry at myself.						
36	If slept in and forget to pray, I would be unhappy with myself.						
37	It's not necessary for me to avoid embarrassing friends.						

Please make sure that you responded to all statements.

Thank you for your participation.

GPS: Scoring Key

Each item of the GPS is rated on a six-point scale. An item can, thus, have a possible score between 1 (the lowest) and 6 (the highest). Eight items are scored in reversed direction. These items are: 3, 7, 9, 13, 19, 21, 25, 37. The GPS has three subscales measuring three different aspects of guilt-proneness: Religious-related guilt (RG), Self-oriented guilt, and Social-related guilt (SOG). Items representing the RG subscale are 6, 10, 14, 20, 22, 23, 24, 26, 27, 34, and 36. The SG subscale items are: 1, 2, 5, 8, 9, 12, 13, 15, 16, 17, and 35. Items forming the SOG subscale are: 3, 4, 7, 11, 18, 19, 21, 25, 28, 29, 30, 31, 32, 33, and 37. The GPS total score is calculated by summing scores of all items in the inventory (37 items). Scores for each individual subscale are calculated as the sum of scores on items representing the subscale.

Appendix B

The Mosher Guilt Inventory: Hostility-Guilt (HG), and Morality-Conscience Guilt (MG) Scales (Mosher, 1985).

*Note: Item completions 1-44 represent the **HG** scale; item 43-62 represent the **MG** scale.*

When anger builds inside me ...	
1. I let people know how I feel.	0 1 2 3 4 5 6
2. I'm angry at myself.	0 1 2 3 4 5 6
After an outburst of anger ...	
3. I am sorry and say so.	0 1 2 3 4 5 6
4. I usually feel quite a bit better	0 1 2 3 4 5 6
When I was younger, fighting ...	
5. didn't bother me.	0 1 2 3 4 5 6
6. never appeal to me.	0 1 2 3 4 5 6
Arguments leave me feeling ...	
7. depressed and discussed.	0 1 2 3 4 5 6
8. elated at winning.	0 1 2 3 4 5 6
When someone swears at me ...	
9. I swear back.	0 1 2 3 4 5 6
10. it usually bothers me even if I don't show it.	0 1 2 3 4 5 6
When I was younger, fighting ...	
11. disgusted me.	0 1 2 3 4 5 6
12. was always a thrill.	0 1 2 3 4 5 6
After a childhood fight, I felt ...	
13. good if I won, bad otherwise.	0 1 2 3 4 5 6
14. hurt and alarmed.	0 1 2 3 4 5 6
After an argument ...	
15. I am sorry for my actions.	0 1 2 3 4 5 6
16. I feel mean.	0 1 2 3 4 5 6
After an outburst of anger ...	
17. I usually feel quite a bit better.	0 1 2 3 4 5 6
18. I feel ridiculous and sorry that I showed my emotions.	0 1 2 3 4 5 6
After an argument ...	
19. I wished that I hadn't argued.	0 1 2 3 4 5 6
20. I feel proud in victory, understanding in defeat.	0 1 2 3 4 5 6
After an argument ...	
21. I am disgusted that I allowed myself to become involved.	0 1 2 3 4 5 6
22. I usually feel better.	0 1 2 3 4 5 6
After an outburst of anger ...	
23. my tensions are relieved.	0 1 2 3 4 5 6
24. I am jittery and all keyed up.	0 1 2 3 4 5 6
Arguments leave me feeling ...	
25. depressed and disgusted.	0 1 2 3 4 5 6
26. proud, they certainly are worthwhile.	0 1 2 3 4 5 6
After an argument ...	
27. I am disgusted that I let myself become involved.	0 1 2 3 4 5 6
28. I feel happy if I won or still stick to my own views if I lose.	0 1 2 3 4 5 6
After a childhood fight, I felt ...	
29. as if I had done wrong.	0 1 2 3 4 5 6
30. like I was a hero.	0 1 2 3 4 5 6

Appendix B *(continued)*

After an argument ...	
31. I am sorry and see no reason to stay mad.	0 1 2 3 4 5 6
32. I feel proud in victory, understanding in defeat.	0 1 2 3 4 5 6
After an argument ...	
33. I am sorry for my actions.	0 1 2 3 4 5 6
34. if I have won, I feel great.	0 1 2 3 4 5 6
When anger builds inside me ...	
35. I always express it.	0 1 2 3 4 5 6
36. I usually take it out on myself.	0 1 2 3 4 5 6
After a fight, I felt ...	
37. relieved.	0 1 2 3 4 5 6
38. it should have been avoided for nothing was accomplished.	0 1 2 3 4 5 6
Arguments leave me feeling ...	
39. exhausted	0 1 2 3 4 5 6
40. satisfied usually.	0 1 2 3 4 5 6
After an argument ...	
41. it is best to apologize to clear the air.	0 1 2 3 4 5 6
42. I usually feel good if I won.	0 1 2 3 4 5 6
I punish myself ...	
43. very infrequently.	0 1 2 3 4 5 6
44. when I do wrong and don't get caught.	0 1 2 3 4 5 6
I detest myself for ...	
45. nothing, I love life.	0 1 2 3 4 5 6
46. for my sins and failures.	0 1 2 3 4 5 6
I detest myself for ...	
47. nothing at present.	0 1 2 3 4 5 6
48. being so self-centered.	0 1 2 3 4 5 6
I detest myself for ...	
49. nothing, I love life.	0 1 2 3 4 5 6
50. not being more nearly perfect.	0 1 2 3 4 5 6
A guilty conscience ...	
51. is worse than a sickness to me.	0 1 2 3 4 5 6
52. does not bother me too much.	0 1 2 3 4 5 6
One should not ...	
53. lose his temper.	0 1 2 3 4 5 6
54. say "one should not".	0 1 2 3 4 5 6
I regret ...	
55. all of my sins.	0 1 2 3 4 5 6
56. getting caught, but nothing else.	0 1 2 3 4 5 6
I punish my self ...	
57. by denying myself a privilege.	0 1 2 3 4 5 6
58. for very few times.	0 1 2 3 4 5 6
If I robbed a bank ...	
59. I should get caught.	0 1 2 3 4 5 6
60. I would live like a king.	0 1 2 3 4 5 6
I detest myself for ...	
61. thoughts I sometimes have.	0 1 2 3 4 5 6
62. nothing, and only rarely dislike myself.	0 1 2 3 4 5 6

Appendix C

The Perceived Guilt Index (PGI; Otterbacher & Munze, 1973).

Instructions:

Please check each word that describes feelings that you sometimes experience; Then go back and tick the **one** word that describes how you **normally** feel.

- ❑ REPROACHABLE
- ❑ INNOCENT
- ❑ PENT-UP
- ❑ DISGRACEFUL
- ❑ UNDISTURBED
- ❑ MARRED
- ❑ CHAGRINED
- ❑ RESTRAINED
- ❑ DEGRADED
- ❑ FRETFUL
- ❑ UNFORGIVABLE

Appendix D

Buss-Durkee Guilt Scale (BDG; Buss & Durkee, 1957)

Instructions:

Please read each statement then indicate whether each statement is true or false in terms of your own view. There are no "right or wrong answers".

No.	Scale Items	Answers
1	The few times I have cheated, I have suffered unbearable feelings of remorse.	True - False -
2	I sometimes have bad thoughts which make me feel ashamed of myself.	True - False -
3	People who shirk on the job must feel very guilty.	True - False -
4	It depresses me that I did not do more for my parents.	True - False -
5	I am concerned about being forgiven for my sins.	True - False -
6	I do many things that make me feel remorseful afterward.	True - False -
7	Failure gives me a feeling of remorse.	True - False -
8	When I do wrong my conscience punishes me severely.	True - False -
9	I often feel that I have not lived the right kind of life.	True - False -

Appendix E

Social Desirability Scale (Crowne & Marlowe, 1960).

Personal Reaction Inventory

Instructions:

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personaly, by putting a circle around the **T** or **F**.

1.	Before voting I thoroughly investigate the qualifications of all the candidates.	T	F
2.	I never hesitate to go out of my way to help someone in trouble.	T	F
3.	It is sometimes hard for me to go on with my work if I am not encouraged.	T	F
4.	I have never intensely disliked anyone.	T	F
5.	On occasion I have had doubts about my ability to succeed in life.	T	F
6.	I sometimes feel resentful when I don't get my way.	T	F
7.	I am always careful about my manner of dress.	T	F
8.	My table manners at home are as good as when I eat out in a restaurant.	T	F
9.	If I could get into a movie without paying and be sure I was not seen I would probably do it.	T	F
10.	On a few occasions, I have given up doing something because I thought too little of my ability.	T	F
11.	I like to gossip at times.	T	F
12.	There have been times when I felt like rebelling against people in authority even though I knew they were right.	T	F
13.	No matter who I am talking to, I am always a good listener.	T	F
14.	I can remember "playing sick" to get out of something.	T	F
15.	There have been occasions when I took advantage of someone.	T	F
16.	I'm always willing to admit it when I make a mistake.	T	F

Appendix E continued

17.	I always try to practice what I preach.	T	F
18.	I don't find it particularly difficult to get along with loud mouthed, obnoxious people.	T	F
19.	I sometimes try to get even rather than forgive and forget.	T	F
20.	When I don't know something I don't at all mind admitting it.	T	F
21.	I am always courteous, even to people who are disagreeable.	T	F
22.	At times I have really insisted on having things my own way.	T	F
23.	There have been occasions when I have felt like smashing things.	T	F
24.	I would never think of letting someone else be punished for my wrong-doings.	T	F
25.	I never resent being asked to return a favour.	T	F
26.	I have never been irked when people expressed ideas very different from my own.	T	F
27.	I never make a long trip without checking the safety of my car.	T	F
28.	There have been times when I was quite jealous of the good fortune of others.	T	F
29.	I have almost never felt the urge to tell someone off.	T	F
30.	I am sometimes irritated by people who ask favours of me.	T	F
31.	I have never felt that I was punished without cause.	T	F
32.	I sometimes think that when people have a misfortune they only got what they deserved.	T	F
33.	I have never deliberately said something that hurt someone's feelings.	T	F

Appendix F

Self Esteem Inventory (Coopersmith, 1981). **Sample test items.**

Instructions:

Please mark each statement in the following way:
If the statement describes how you usually feel, put a check (√) in the column, *"Like Me."* If the statement does not describe how you usually feel, put a check (√) in the column, *"Unlike Me."* There are no right or wrong answers.

	Like Me	Unlike Me
1. I'm pretty sure of myself.	.....	.....
2. I'm easy to like.	.....	.....
3. I can make up my mind without too much trouble.	.....	.....
4. I can usually take care of myself.	.....	.....
5. I'm a lot of fun to be with.	.....	.....
6. I'm pretty happy.	.....	.....

Appendix G

MMPI: Depression Scale (D) - Sample test items.

2. I have a good appetite. (*F*)

10. I am about as able to work as ever was. (*F*)

65. Most of the time I feel blue.

73. I am certainly lacking in self-confidence.

75. I usually feel that life is worthwhile. (*F*)

130. I certainly feel useless at times.

273. Life is a strain for me much of the time.

415. I worry quite a bit over possible misfortunes.

454. The future seems hopeless to me.

Appendix H

MMPI: Psychopathic Deviate (*Pd*) - Sample test items.

27. When people do me a wrong, I feel I should pay them back if I can, just for the principle of the thing.

84. I was suspended from school one or more times for bad behavior.

227. I don't blame people for trying to grab everything they can get in this world.

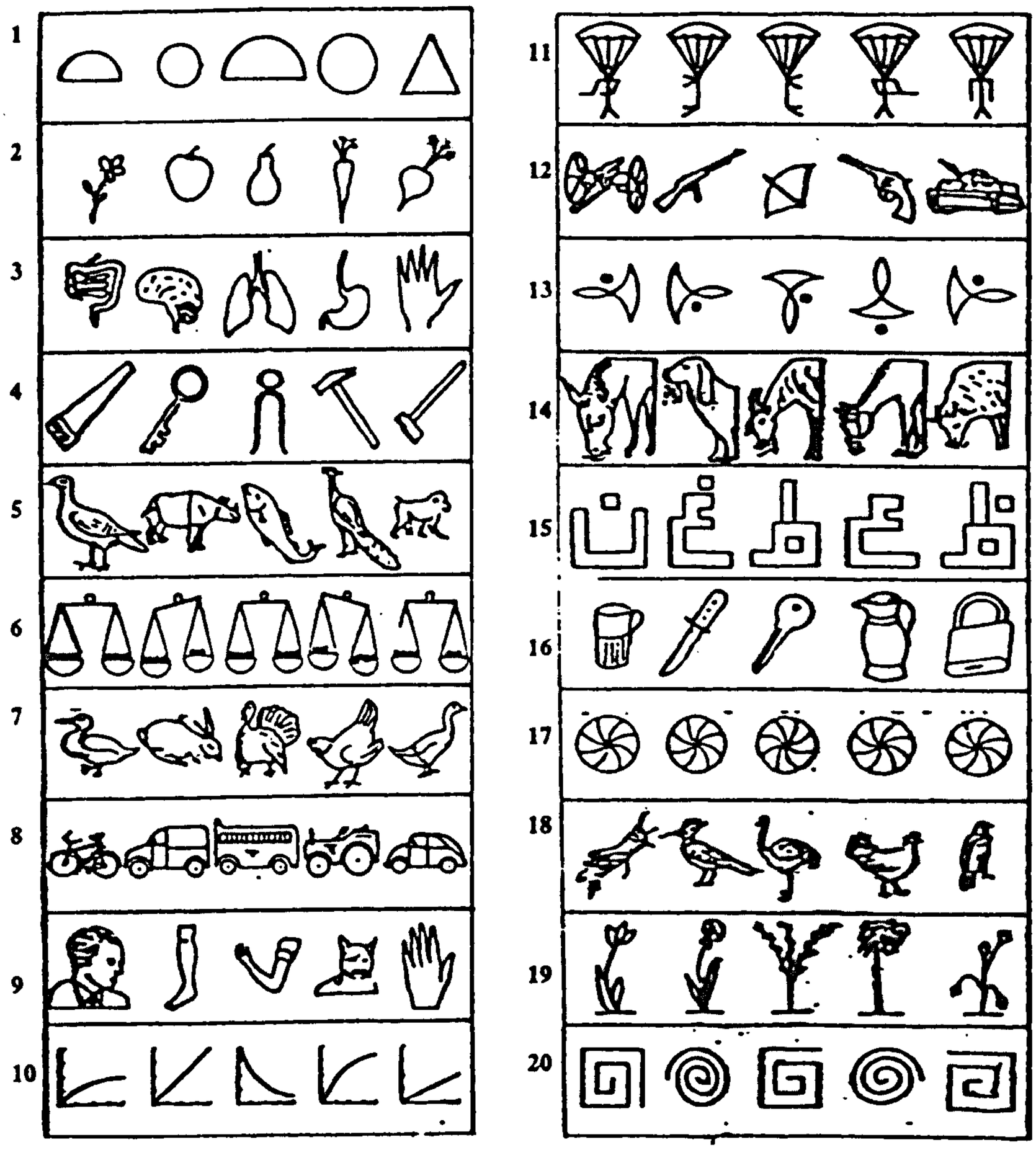
240. At times it has been impossible for me to keep from steeling or shoplifting something.

266. I have never been in trouble with the law. (F).

324. I can easily make other people afraid of me, and sometimes do for the fun of it.

Appendix I

The Youth Intelligence Test (YIT: Zahran, 1976): **Sample test figures.**



Appendix J

Post-Conditioning Interview for Awareness in the Verbal Conditioning Experiment.

1. What do you think the experiment was all about?

2. How did you go about deciding which of the words on the bottom to use?

3. Did you notice any change in the words you selected to use in your sentences?

4. Was there anything about what the interviewer did that you particularly noticed?

5. Did you notice any pattern to the interviewer's saying of "good" or "mmm-hmm" ?

Appendix K

General Information Sheet (for Normals)

Name.....

Age.....

Occupation.....

Course of study (for students).....

Monthly Income (in SR).....

Nationality.....

Appendix L

General Information Sheet (for Drug Abusers)

Name.....

Age.....

Occupation.....

Course of study (for students).....

Monthly Income (in SR).....

Nationality.....

Type of drugs used.....

Experience with drugs .....year .....month

Average of illicit drug dosage consumed dally (in mg.).....

Number of admissions to the Al-Amal Hospital .....

Additional Notes:

Appendix M

General Information Sheet (for Offenders)

Name.....

Age.....

Occupation.....

Course of study (for students).....

Monthly Income (in SR).....

Nationality.....

Type of offence committed .....

Number of previous convictions .....

Additional Notes:

Appendix N

Exploratory Factor Analysis of the GPS

Four Factor solutions based on four different methods of factor extraction which are: Principal Axis factoring, Maximum Likelihood factoring, Image factoring, and Unweighted Least Squares method of factor analysis. These four factor solutions are based on Varimax rotation.

Item	Principal Axis Factoring			Maximum Likelihood			Image Factoring			Unweighted Least Squares		
	Factor I	*Factor II*	*Factor III*	*Factor I*	*Factor II*	*Factor III*	*Factor I*	*Factor II*	*Factor III*	*Factor I*	*Factor II*	*Factor III*
G1	-.13989	-.05641	.16120	-.14027	-.04654	.14796	-.13893	-.04610	.14082	-.13989	-.05641	.16121
G2	.03025	.01390	.15179	.01179	.03498	.14222	.02311	.02075	.13384	.03021	.01394	.15181
G3	-.19871	.07778	.36928	-.18949	.06401	.35734	-.19934	.07596	.34382	-.19866	.07772	.36927
G4	-.15498	.13934	.33626	-.12988	.10186	.33052	-.12716	.10021	.31213	-.15496	.13930	.33630
G5	.05973	.35397	-.04153	.03166	.37770	-.04583	.05348	.34095	-.04844	.05968	.35403	-.04152
G6	-.06523	.05727	.19266	-.04760	.04800	.18013	-.04919	.04759	.18597	-.06522	.05726	.19268
G7	.03254	.33935	.30708	.01577	.35348	.30130	.02456	.33360	.28564	.03252	.33938	.30711
G8	.12323	.09908	.05929	.12249	.09082	.06520	.11360	.09300	.05640	.12323	.09908	.05929
G9	.18932	-.01116	-.08027	.19055	-.00822	-.08159	.17695	.00488	-.07451	.18934	-.01117	-.08028
G10	.04401	.04404	.45330	.05528	.02010	.45416	.04227	.03970	.42243	.04404	.04399	.45335
G11	.15605	.21263	.16019	.18082	.17069	.16668	.17598	.17746	.16350	.15607	.21258	.16024
G12	.32576	-.10391	.11961	.33670	-.09982	.11681	.32448	-.09573	.11730	.32574	-.10389	.11960
G13	-.13448	.33666	-.09133	-.15809	.36315	-.10173	-.12744	.31301	-.09394	-.13454	.33675	-.09134
G14	-.02639	.01691	.39649	-.03765	.02270	.39323	-.03710	.02622	.36141	-.02640	.01691	.39652
G15	.08786	.03918	.45815	.07084	.05732	.46088	.06516	.06407	.42793	.08786	.03918	.45816
G16	.08229	.17965	.07307	.08539	.17629	.06928	.08894	.16886	.06449	.08227	.17967	.07307
G17	.22795	.19570	.00670	.22038	.19925	.00506	.21401	.20323	-.00281	.22796	.19569	.00670
G18	.51543	-.01825	-.07918	.51811	-.01098	-.07759	.52601	-.02934	-.07061	.51527	-.01815	-.07916
G19	.25789	.38699	.22708	.21745	.42259	.22781	.22501	.39467	.21332	.25787	.38703	.22709
G20	.07380	.01973	.35192	.06851	.02854	.35025	.06001	.03991	.31738	.07381	.01971	.35196
G21	.11680	.08301	-.25337	.09826	.10094	-.25395	.10397	.10592	-.25917	.11678	.08303	-.25336
G22	.08411	.04746	.45382	.09881	.02401	.46003	.09703	.01918	.44203	.08412	.04745	.45379
G23	.12385	.21478	.06703	.13505	.19869	.06018	.12619	.20201	.05472	.12387	.21473	.06705
G24	.45477	.25931	.20578	.42441	.28827	.20209	.42013	.28859	.19808	.45476	.25932	.20578
G25	.07643	-.05662	.44289	.07592	-.04650	.44004	.06965	-.04874	.43357	.07642	-.05657	.44276

G26	-.05781	.00496	.50906	-.05280	.00095	.50955	-.05747	-.00271	.50581	-.05776	.00497	.50884
G27	.19586	.04510	.30810	.16932	.07563	.31618	.16696	.07856	.30616	.19586	.04510	.30810
G28	-.01945	.31322	-.19701	-.02083	.30812	-.19825	-.01159	.28271	-.18726	-.01946	.31324	-.19701
G29	-.06343	.38481	-.00835	-.04257	.33999	.00068	-.03720	.32027	.00595	-.06339	.38475	-.00833
G30	.23009	.12728	.15977	.21010	.15904	.15192	.20770	.15147	.14451	.23007	.12730	.15976
G31	.67171	-.00279	-.08428	.69188	-.01158	-.07915	.64305	.02050	-.05697	.67193	-.00292	-.08435
G32	-.10226	.42133	-.01413	-.06605	.35697	-.00522	-.06646	.35227	.00076	-.10217	.42116	-.01408
G33	.54884	.06821	-.03046	.55055	.08193	-.03417	.54915	.06317	-.01611	.54875	.06826	-.03047
G34	.28764	-.05736	.26131	.25718	-.01849	.25392	.24176	-.00343	.23829	.28764	-.05736	.26131
G35	.54379	.15996	-.01560	.52503	.18024	-.00998	.50054	.18425	-.00114	.54381	.15996	-.01563
G36	-.01157	.12493	.20795	-.00498	.09727	.22572	-.01014	.10401	.20784	-.01156	.12491	.20796
G37	.55089	.26710	.05391	.55321	.28174	.05266	.53022	.28590	.05908	.55091	.26709	.05389
G38	.11293	.31803	.14551	.10436	.32087	.14605	.10034	.31624	.13988	.11294	.31803	.14551
G39	.14761	.25855	-.03130	.14702	.24602	-.02388	.14425	.24451	-.02635	.14762	.25854	-.03129
G40	.11229	.29364	.05413	.13386	.26364	.06106	.12551	.26149	.07517	.11232	.29360	.05413
G41	.00587	.24035	-.00391	.02406	.21829	.00403	.02572	.19930	.01326	.00588	.24036	-.00393
G42	.55902	.18111	-.21022	.56962	.17934	-.21230	.56253	.17048	-.19406	.55898	.18112	-.21022
G43	.51417	.15843	.03467	.52413	.15373	.04454	.50878	.15746	.04831	.51420	.15839	.03467
G44	.30766	.41651	.04414	.29528	.44519	.03567	.29428	.42758	.04398	.30765	.41652	.04413
G45	.12694	.48373	.05167	.11538	.49295	.05416	.12012	.46141	.05617	.12694	.48375	.05167
G46	.26269	.19310	.02173	.23264	.22992	.02625	.22080	.24439	.01924	.26270	.19310	.02172
G47	.29240	.25808	.12770	.27505	.28063	.11940	.25888	.28516	.11276	.29241	.25807	.12771
G48	.27831	.42113	.11694	.24028	.47315	.10579	.23811	.45812	.10215	.27830	.42115	.11694
G49	.03751	.31402	.10625	.01865	.32017	.11551	.02000	.30749	.11094	.03751	.31402	.10625
G50	.29229	.32895	.11508	.26710	.35248	.11461	.27721	.32357	.11292	.29226	.32899	.11508
G51	.22007	.34962	-.05825	.21733	.34255	-.05286	.22320	.32289	-.05227	.22006	.34963	-.05825
G52	.20656	.26283	-.06203	.21536	.25171	-.06033	.20677	.24370	-.04876	.20658	.26281	-.06204
G53	.15842	.00191	-.00109	.14829	.01739	-.00383	.13830	.02799	-.00674	.15843	.00190	-.00108
G54	.54304	.27073	-.08098	.55574	.27188	-.07669	.54293	.25326	-.05734	.54304	.27075	-.08100
G55	.23974	.19931	.04580	.22108	.22041	.05314	.22121	.21126	.04767	.23974	.19932	.04580
G56	.20867	.26369	.33678	.19434	.27019	.34422	.18867	.26803	.33559	.20868	.26368	.33680
G57	.29387	.29100	.27126	.32074	.25182	.28829	.30057	.27503	.29242	.29392	.29093	.27127
G58	-.04162	.18049	-.21984	-.02787	.16216	-.22188	-.02327	.14937	-.20582	-.04162	.18050	-.21985
G59	.54612	.08197	.19067	.56185	.06271	.20462	.53703	.07572	.19947	.54614	.08194	.19068
G60	.08080	.31689	.07146	.05965	.33346	.07273	.05329	.34399	.05904	.08081	.31688	.07148

***Note**: These four exploratory factor solutions are based on a 60 X 60 GPS correlation matrix. N = 214 Ss.*

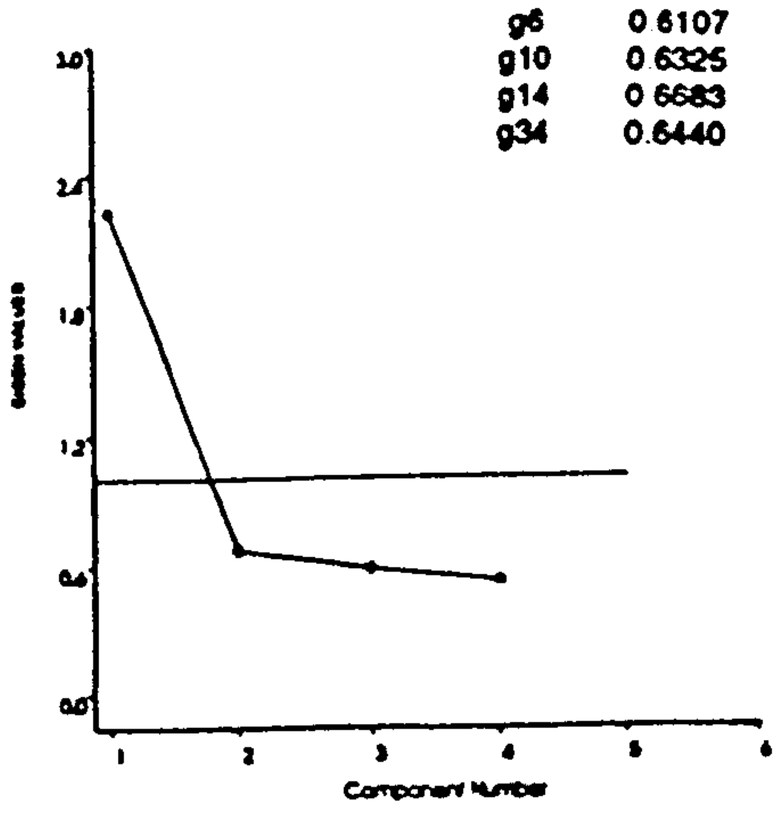
Appendix Q

Results Summary of Factor Analysis employed in the Process of Generating Nine GPS Parcels of Homogeneous Items: Scree Plot and Rotated Factor loading (based on orthogonal rotation) for each Parcel.

Parcel 1

Scree Plot and Factor Loading for GPS Items Representing PARCEL ONE.

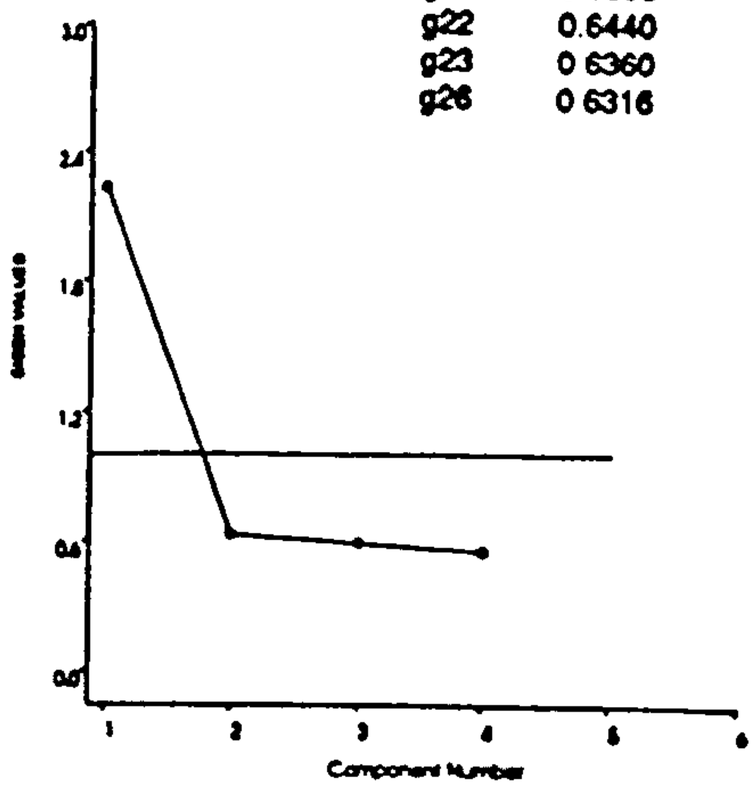
	FACTOR 1
g6	0.6107
g10	0.6325
g14	0.6683
g34	0.6440



Parcel 2

Scree Plot and Factor Loading for GPS Items Representing PARCEL TWO.

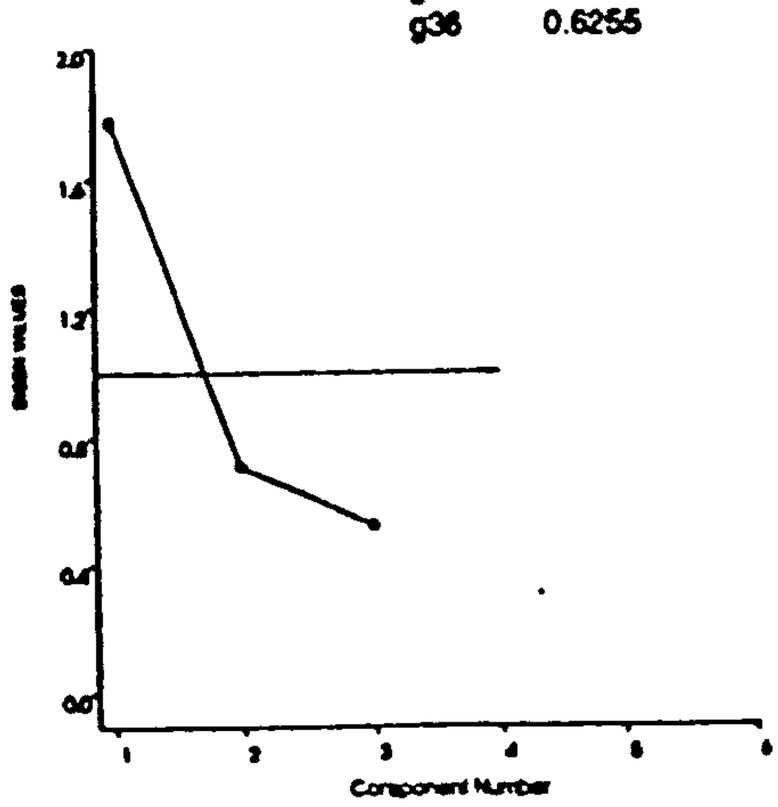
	FACTOR 1
g20	0.6508
g22	0.6440
g23	0.6360
g26	0.6316



Parcel 3

Scree Plot and Factor Loading for GPS Items Representing PARCEL THREE.

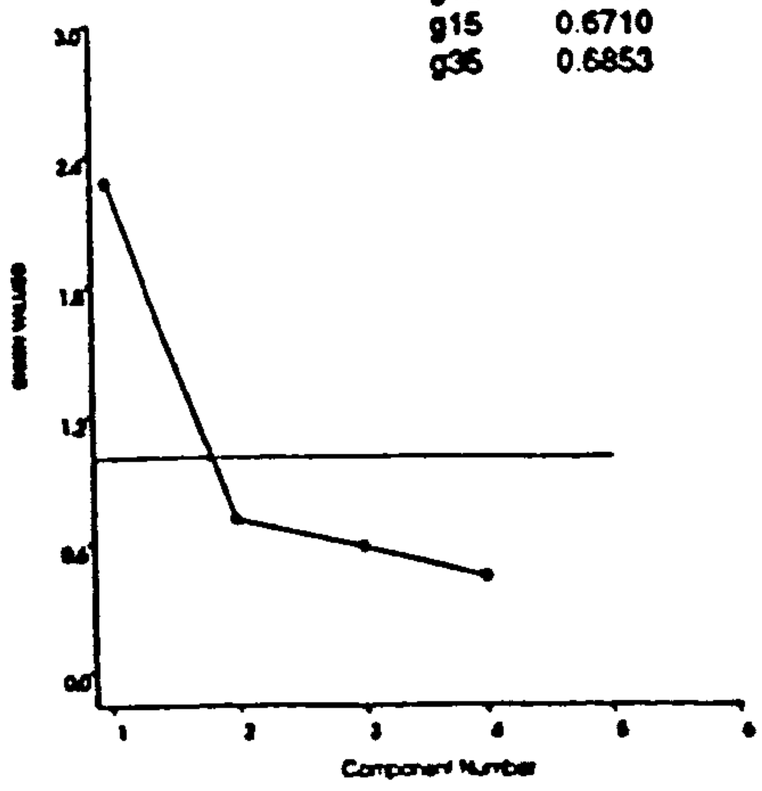
	FACTOR 1
g24	0.5719
g27	0.6596
g36	0.6255



Parcel 4

Scree Plot and Factor Loading for GPS Items Representing PARCEL FOUR.

	FACTOR 1
g1	0.6257
g12	0.6182
g15	0.6710
g36	0.6853

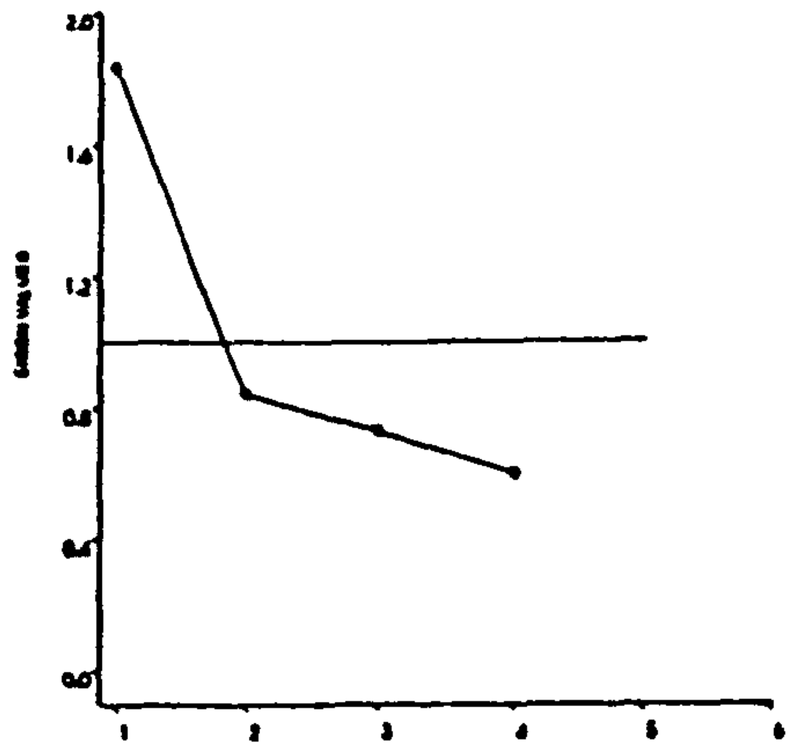


Appendix O *(continued)*

Parcel 5

Scree Plot and Factor Loading for GPS Items Representing PARCEL FIVE.

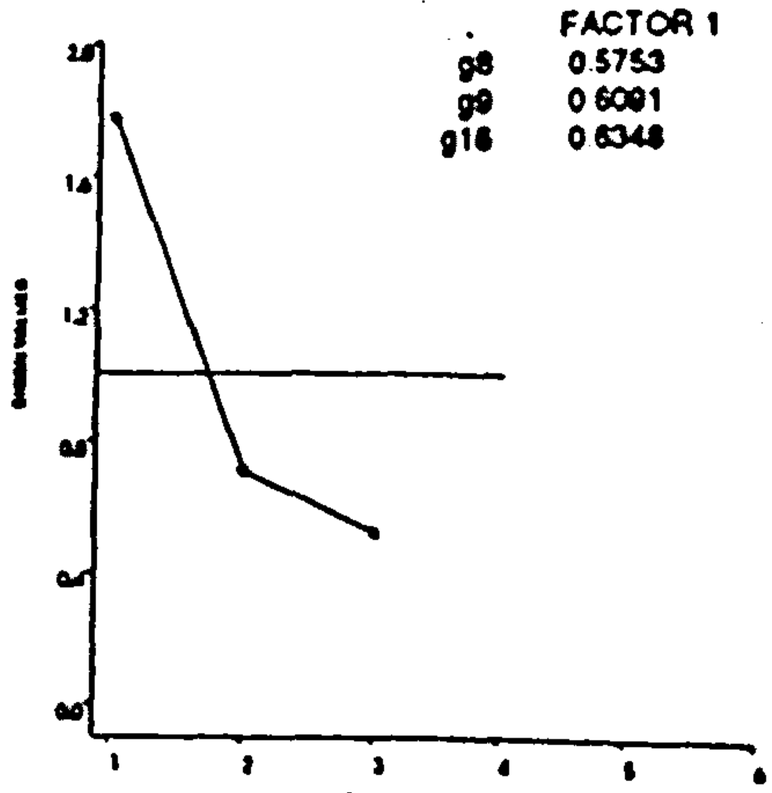
	FACTOR 1
g2	0.5174
g5	0.5589
g13	0.5629
g17	0.4621



Parcel 6

Scree Plot and Factor Loading for GPS Items Representing PARCEL SIX.

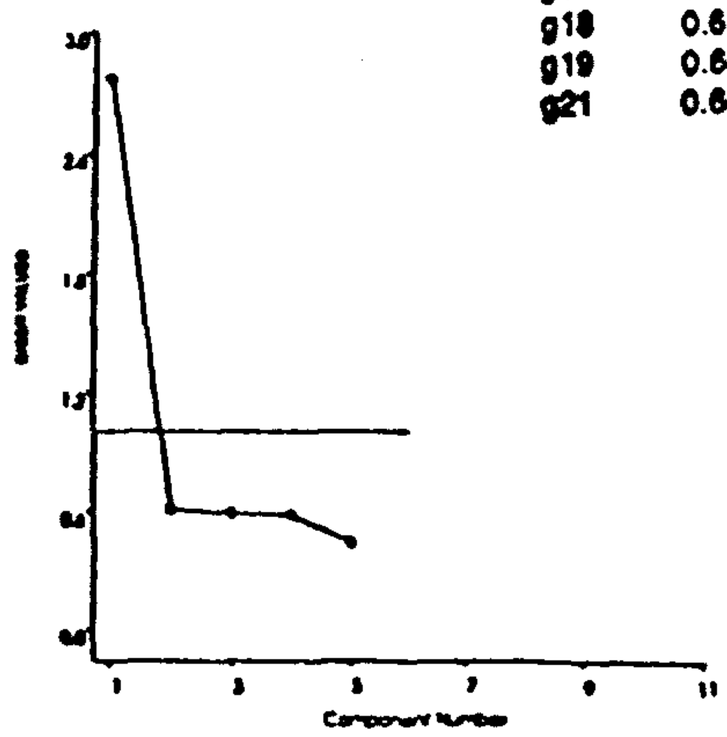
	FACTOR 1
g8	0.5753
g9	0.6081
g16	0.6348



Parcel 7

Scree Plot and Factor Loading for GPS Items Representing PARCEL SEVEN.

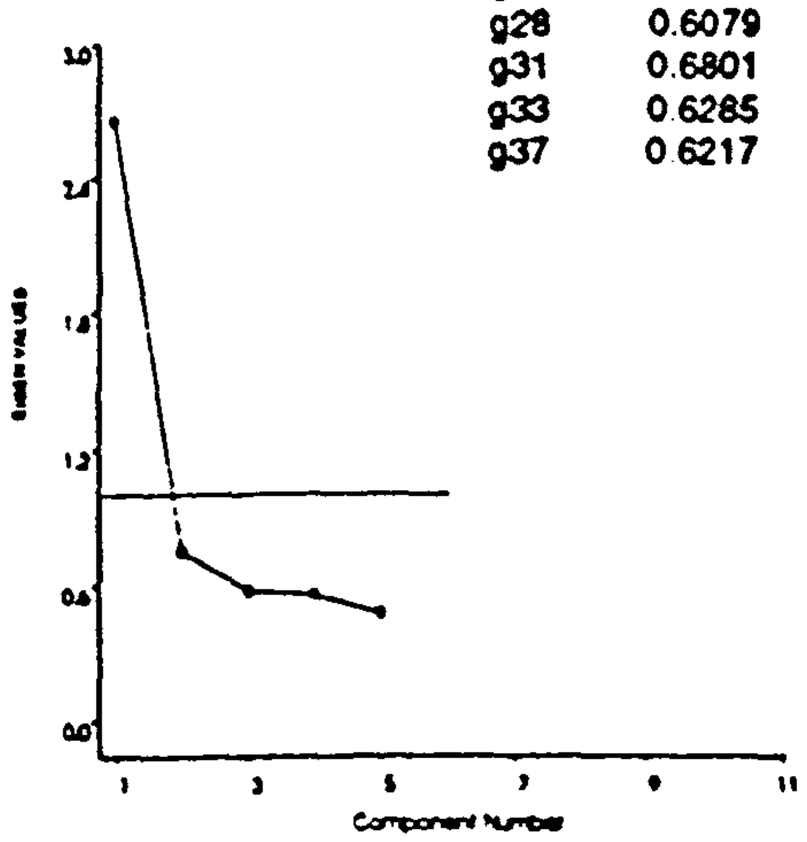
	FACTOR 1
g2	0.6778
g11	0.6667
g18	0.6724
g19	0.6411
g21	0.6681



Parcel 8

Scree Plot and Factor Loading for GPS Items Representing PARCEL EIGHT.

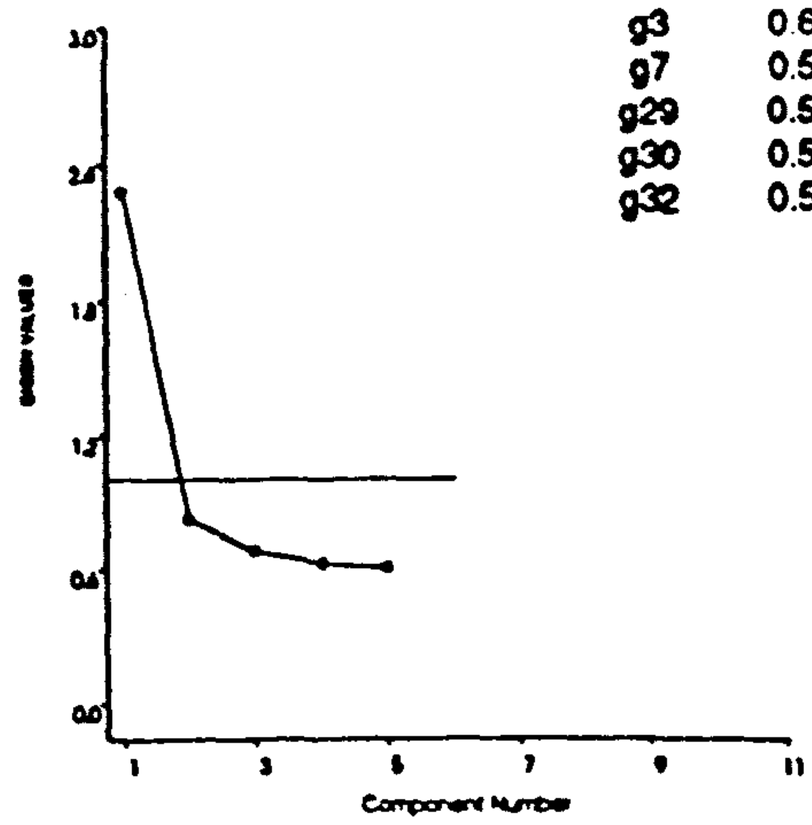
	FACTOR 1
g25	0.6667
g28	0.6079
g31	0.6801
g33	0.6285
g37	0.6217



Parcel 9

Scree Plot and Factor Loading for GPS Items Representing PARCEL NINE.

	FACTOR 1
g3	0.6054
g7	0.5396
g29	0.5717
g30	0.5570
g32	0.5452



Appendix P

Guilt Diagnostic Interview (GDI: Ben-Hussain, present research)

Guilt Interview Questions

1	How did you begin to take drugs?
2	Can you tell me why you have decided to come for treatment at Al-Amal Hospital?
3	How would you describe your feelings about being on drugs?
4	How would you compare yourself now with yourself before you got involved in drugs?
5	Do you feel bad about yourself? ..What's the feeling like?
6	After realising that you'v taken an intoxicant drug, how do you react?
7	Do you feel that you are responsible for any harm to other because of your drug habit?
8	How do you feel at the moment just before you take an intoxicant drug? Do you ever experience thoughts that tend to alarm you or held you back from using the drugs?
9	Do you regret being on drug, now?...Why?

Appendix Q.1

Confirmatory Factor Analysis of the GPS: EQS Run Program for Evaluating the GPS Factor Model (Sample One, $N = 227$)

```
/TITLE
'Confirmatory Factor Analysis of the GPS using Structural Equation Modelling'
/SPECIFICATIONS
  VARIABLES = 9; CASES = 227; METHOD = ML;
  MATRIX = RAW; DATA = 'gqparcl1.ess';
/LABELS
 V1 = GPARCEL1; V2 = GPARCEL2; V3 = GPARCEL3; V4 = GPARCEL4; V5 =
GPARCEL5;
 V6 = GPARCEL6; V7 = GPARCEL7; V8 = GPARCEL8; V9 = GPARCEL9;
/EQUATIONS
V1 = 1.0* F1  +  E1;
V2 = 1.0* F1  +  E2;
V3 = 1.0* F1  +  *F3  +  E3;
V4 = 1.0* F2  +  *F1  +  E4;
V5 = 1.0* F2  +  E5;
V6 = 1.0* F2  +  E6;
V7 = 1.0* F3  +  E7;
V8 = 1.0* F3  +  E8;
V9 = 1.0* F3  +  E9;
/VARIANCES
F1 To F3 = 1;
E1 To E9 = 1*;
/COVARIANCES
F3,F1 =.2*;
F2,F1 =.1*;
F3,F2 =.1*;
/END
```

Appendix Q.2

Confirmatory Factor Analysis of the GPS: EQS Run Program for Evaluating the GPS Factor Model (Sample Two, *N* = 206)

```
/TITLE
Confirmatory Factor Analysis of the GPS using Structural Equation Modelling
/SPECIFICATIONS
 VARIABLES = 9; CASES = 206; METHOD = ML;
 MATRIX = RAW; DATA = 'gqparcla.ess';
/LABELS
 V1 = GPARCEL1; V2 = GPARCEL2; V3 = GPARCEL3; V4 = GPARCEL4; V5 =
GPARCEL5;
 V6 = GPARCEL6; V7 = GPARCEL7; V8 = GPARCEL8; V9 = GPARCEL9;
/EQUATIONS
V1 = 1.0* F1  +  E1;
V2 = 1.0* F1  +  E2;
V3 = 1.0* F1  +  E3;
V4 = 1.0* F2  + *F1  +  E4;
V5 = 1.0* F2  +  E5;
V6 = 1.0* F2  +  E6;
V7 = 1.0* F3  +  E7;
V8 = 1.0* F3  +  E8;
V9 = 1.0* F3  +  E9;
/VARIANCES
F1 To F3 = 1;
E1 To E9 = 1*;
/COVARIANCES
F3,F1 = .20;
F2,F1 = .15;
F3,F2 = .15;

/END
```

Appendix Q.3

Confirmatory Factor Analysis of the GPS: EQS Run Program For Testing Covariance Matrices

```
/TITLE
 'Test of Equality of Covariance Matrices. Based on GPS scores. of Group one (non-students)
  and Group two (U. students)'
  "Group One"
/SPECIFICATIONS
 GROUPS = 2; VARIABLES = 9; CASES = 227; !(male adults of different occupational status)
 METHODS = ML;
 MATRIX = COV; ANALYSIS = COV;
/EQUATIONS
 V = 2*F1;
 V = 2*F2;
 V = 2*F3;
 V4 = 2*F4;
 V5 = 2*F5;
 V6 = 2*F6;
 V7 = 2*F7;
 V8 = 2*F8;
 V9 = 2*F9;
/VARIANCES
 F1 To F9 = 1;
/COVARIANCES
 F1  To  F9 = .2*;

/MATRIX
 0.897
 0.628  0.770
 0.595  0.566  0.814
 0.180  0.157  0.136  1.005
 0.066  0.085  0.068  0.702  1.098
 0.110  0.108  0.159  0.792  0.818  1.531
 0.130  0.171  0.239  0.088  0.126  0.082  0.777
 0.106  0.164  0.204  0.056  0.067  0.165  0.610  0.983
 0.080  0.107  0.186  0.079  0.128  0.175  0.542  0.668  1.041
/END

/TITLE
 'Test of Equality of Covariance Matrices, Based on GPS scores, of Group one (non-students)
  and Group two (U. students)'
 "Group Two"
/SPECIFICATIONS
  VARIABLES = 9; CASES = 206; !(male university students)
 METHODS = ML;
```

Appendix **Q.3** *(continued)*

```
MATRIX = COV; ANALYSIS = COV;
/EQUATIONS
 V1 = 2*F1;
 V2 = 2*F2;
 V3 = 2*F3;
 V4 = 2*F4;
 V5 = 2*F5;
 V6 = 2*F6;
 V7 = 2*F7;
 V8 = 2*F8;
 V9 = 2*F9;
/VARIANCES
 F1 To F9 = 1;
/COVARIANCES
 F1 To F9 = .2*;

/MATRIX
  0.943
  0.565  0.835
  0.697  0.769  1.117
  0.165  0.233  0.276  1.146
  0.070  0.142  0.189  0.924  1.320
  0.058  0.122  0.147  0.881  0.973  1.405
  0.082  0.212  0.266  0.173  0.145  0.135  0.962
  0.096  0.236  0.279  0.202  0.087  0.090  0.768  1.172
  0.082  0.081  0.208  0.209  0.122  0.205  0.680  0.853  1.159

 /CONSTRAINTS
!First, constraints on covariances across groups
(1,F1,F2) = (2,F1,F2);
(1,F1,F3) = (2,F1,F3);
(1,F1,F4) = (2,F1,F4);
(1,F1,F5) = (2,F1,F5);
(1,F1,F6) = (2,F1,F6);
(1,F1,F7) = (2,F1,F7);
(1,F1,F8) = (2,F1,F8);
(1,F1,F9) = (2,F1,F9);
(1,F2,F3) = (2,F2,F3);
(1,F2,F4) = (2,F2,F4);
(1,F2,F5) = (2,F2,F5);
(1,F2,F6) = (2,F2,F6);
(1,F2,F7) = (2,F2,F7);
(1,F2,F8) = (2,F2,F8);
(1,F2,F9) = (2,F2,F9);
```

Appendix **Q.3** *(continued)*

```
(1,F3,F4) = (2,F3,F4);
(1,F3,F5) = (2,F3,F5);
(1,F3,F6) = (2,F3,F6);
(1,F3,F7) = (2,F3,F7);
(1,F3,F8) = (2,F3,F8);
(1,F3,F9) = (2,F3,F9);
(1,F4,F5) = (2,F4,F5);
(1,F4,F6) = (2,F4,F6);
(1,F4,F7) = (2,F4,F7);
(1,F4,F8) = (2,F4,F8);
(1,F4,F9) = (2,F4,F9);
(1.F5,F6) = (2,F5,F6);
(1,F5,F7) = (2,F5,F7);
(1,F5,F8) = (2,F5,F8);
(1,F5,F9) = (2,F5,F9);
(1,F6,F7) = (2,F6,F7);
(1,F6,F8) = (2,F6,F8);
(1,F6,F9) = (2,F6,F9);
(1,F7,F8) = (2,F7,F8);
(1,F7,F9) = (2,F7,F9);
(1,F8,F9) = (2,F8,F9);
!Next, constraints across groups on loadings on factors
!which we postulate underlie the correlations in both groups.
(1,V1,F1) = (2,V1,F1);
(1,V2,F2) = (2,V2,F2);
(1,V3,F3) = (2,V3,F3);
(1,V4,F4) = (2,V4,F4);
(1,V5,F5) = (2,V5,F5);
(1,V6,F6) = (2,V6,F6);
(1,V7,F7) = (2,V7,F7);
(1,V8,F8) = (2,V8,F8);
(1,V9,F9) = (2,V9,F9);


/END
```

Appendix R

Confirmatory Factor Analysis of the GPS: EQS Run Program for Evaluating the GPS Factor Model (Combined Sample, $N = 433$)

```
 /TITLE
'Confirmatory Factor Analysis of the GPS using Structural Equation Modelling'
 /SPECIFICATIONS
 VARIABLES = 9; CASES = 433; METHOD = ML;
 MATRIX = RAW; DATA = 'gqparcl4.ess';          !'gqparcl.ess';
/LABELS
 V1 = GPARCEL1; V2 = GPARCEL2; V3 = GPARCEL3;  V4 = GPARCEL4;
 V5 = GPARCEL5;
 V6 = GPARCEL6; V7 = GPARCEL7; V8 = GPARCEL8; V9 = GPARCEL9;

 EQUATIONS
 V1 = 1.0* F1 +  E1;
 V2 = 1.0* F1 +  E2;
 V3 = 1.0* F1 +  *F3  + E3;
 V4 = 1.0* F2 +  *F1  +  E4;
 V5 = 1.0* F2 +  E5;
 V6 = 1.0* F2 +  E6;
 V7 = 1.0* F3 +  E7;
 V8 = 1.0* F3 +  E8;
 V9 = 1.0* F3 +  E9;
 /VARIANCES
 F1 To F3=1;
 E1 To E9=1*;
 /COVARIANCES
 F3,F1 = .20;
 F2,F1 = .15;
 F3,F2 = .15;
/END
```

Appendix S

List of Religious-related and neutral verbs used in the verbal conditioning experiment.

No.	Religious-Related Verbs	Neutral Verbs
1	repented	played
2	apologised	swam
3	sinned	moved
4	wronged	walked
5	regretted	jumped
6	fasted	rode
7	refrained	worked
8	prayed	carried
9	forgave	repaired
10	worshipped	climbed

Appendix T

Randomised order of triads of elements that was used in presenting elements to the subjects.

Order in which triads were presented	Triad of elements
1	4 9 11
2	5 7 13
3	1 3 9
4	4 6 12
5	3 5 11
6	2 4 10
7	1 6 8
8	2 7 9
9	6 11 13
10	3 8 10
11	1 7 12
12	2 8 13
13	5 10 12

Appendix U

Sample of correspondence with relevant authority, in Saudi Arabia, in respect of data collection.

(1) A letter by the Juvenile Supervision Department of the Saudi Arabian Ministry of Labour and Social Affairs to the Juvenile Observation Centre in Riyadh, requesting access, for the present investigator, to meet incarcerated young offenders at the centre.

بسم الله الرحمن الرحيم

المملكة العربية السعودية
وزارة العمل والشئون الاجتماعية
وكالة الوزارة لشئون الرعاية الاجتماعية

ادارة رعاية الأحداث

الرقم ٦١١
التاريخ ١٥/ صفر ١٤١١
المشفوعات
الموضوع

المكرم/ مدير دار الملاحظه الاجتماعيه بالرياض المحترم
السلام عليكم ورحمة الله وبركاته ..

إشاره لخطاب عميد كليه التربيه بجامعه الملك سعود رقم ٢٠/٣٢ وتاريخ ١٤١١/٢/١٢هـ الموجه لسعادة وكيل الوزاره المتضمن طلب الموافقه على تمكين المبتعث / عبدالعزيز بن محمد بن حسين بتطبيق المقياس الخاص بدراسته ((حول بعض المتغيرات المرتبطه بجرائم الصغار بالمملكه)) .

لذا نامل تسهيل مهمة المذكور حيال مقابلة الأحداث لتمكينه من تعبئة الاستماره الخاصه بالدراسه مع ملاحظه الحفاظ على سرية اسماء الاحداث ويستحسن اجراء المقابله بحضور الاخصائي الاجتماعي .

ولكم تحياتي ..

مدير ادارة رعاية الاحداث
عبدالله بن ناصر السدحان

(2) A letter by King Saud University (employer and sponsor) to the Director-General of the Education Authority of Riyadh Area, requesting access to secondary school pupils.

COLLEGE OF EDUCATION
Dean's Office

المملكة العربية السعودية
جامعة الملك سعود
King Saud University

كلية التربية
مكتب العميد

الرقم: ٢٢ / ٥٠ No: التاريخ: ١٠/ ١/ ١٤١١ Date:

سعادة مدير عام التعليم بمنطقة الرياض المحترم

السلام عليكم ورحمة الله وبركاته ..وبعد

نظراً لقيام مبتعث لقسم علم النفس / عبد العزيز بن محمد بن حسين باجراء دراسة حقلية حول بعض المتغيرات المرتبطة بتعاطي المخدرات بالمملكة وذلك كجزء من دراسته .

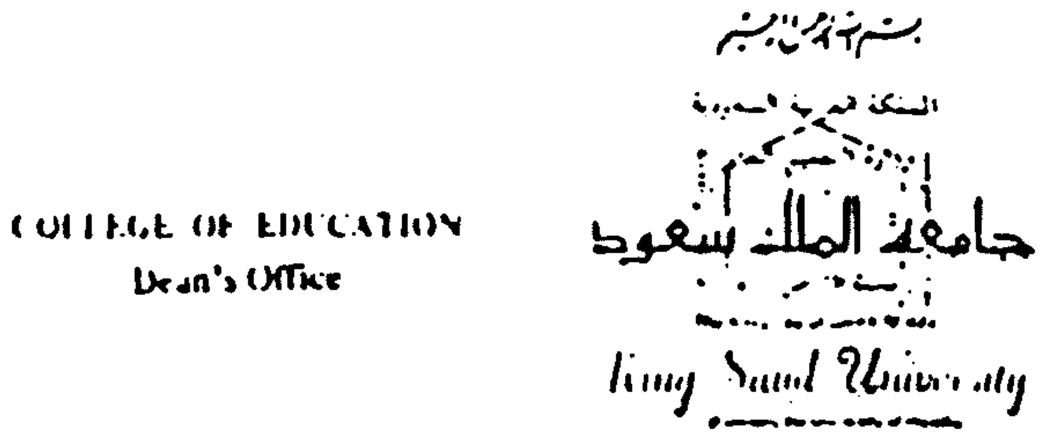
لذا نامل من سعادتكم الموافقة على تمكينه من تطبيق المقياس الخاص بالدراسه في بعض المدارس الثانوية في منطقة الرياض.

مع قبول وافر التحية التقدير ،،

عميد كلية التربية

د. احمد بن عثمان التويجري

(3) A letter by King Saud University to the Director-General of the Health Authority in Riyadh, requesting access and cooperation for collecting data from illicit-drug patients at the Al-Amal Hospital.



الرقم: ٢٤/ ٠ ع التاريخ: ١٤٢١/١/١٠ Date

سعادة مدير عام الشئون الصحية بمنطقة الرياض المحترم

السلام عليكم ورحمة الله وبركاته ..وبعد

نظراً لقيام مبتعث لقسم علم النفس / عبد العزيز بن محمد بن حسين باجراء دراسة حقلية حول بعض المتغيرات المرتبطة بتعاطي المخدرات بالمملكة وذلك كجزء من دراسته .

لذا نامل من سعادتكم الموافقة على تمكينه من تطبيق المقياس الخاص بالدراسه في مستشفى الامل .

مع قبول وافر التحية التقدير ..

عميد كلية التربية

د. احمد بن عثمان التويجري

(4) A letter by King Saud University to the Director-General of the Health Authority in Riyadh in respect of access and cooperation for a follow-up assessment of a number of illicit-drug patients at the Al-Amal Hospital.

بسم الله الرحمن الرحيم

COLLEGE OF EDUCATION
Dean's Office

جامعة الملك سعود
King Saud University

كلية التربية
مكتب العميد

التاريخ ١٤١٢/١١/١١ Date: الرقم ٢٥٩٩/٢٠ No.:

سعادة مدير عام الشئون الصحية بمنطقة الرياض المحترم

السلام عليكم ورحمة الله وبركاته..وبعد

يقوم مبتعث قسم علم النفس - كلية التربية - جامعة الملك سعود/ عبدالعزيز محمد أحمد بن حسين باجراء دراسة تتناول بعض المتغيرات النفسية المتعلقة بسلوك تعاطي المخدرات وذلك كجزء من متطلبات دراسته لمرحلة الدكتوراه .

لذا نامل التكرم بالموافقة على تمكينه من مقابلة بعض الحالات المراجعة لمستشفى الأمل بالرياض وتطبيق بعض الاختبارات ذات العلاقة بالدراسة (مرفق صورة منها) ؛ علماً بان البيانات التي سوف يحصل عليها الباحث ستحاط بكامل السرية ولن يستفاد منها إلا لاغراض البحث العلمي فقط.

وتفضلوا بقبول وافر التحية والتقدير،،،

عميد كلية التربية ١١/١١/١٤١٢

د. سليمان محمد الجبر

Appendix V

Sample of Saudi Newspaper and Magazine Cavarage of the Illicit Drug Abuse Problem.

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